

# FCC Sub6 REPORT

## Certification

**Applicant Name:**

SAMSUNG Electronics Co., Ltd.

**Date of Issue:**

November 24, 2021

**Location:**

HCT CO., LTD.,  
74, Seoicheon-ro 578beon-gil, Majang-myeon,  
Icheon-si, Gyeonggi-do, 17383, Rep. of KOREA

**Address:**

129, Samsung-ro, Yeongtong-gu,  
Suwon-si, Gyeonggi-do, 16677, Rep. of Korea

**Report No.:** HCT-RF-2111-FC050

**FCC ID:**

**A3LSMX808U**

**APPLICANT:**

**SAMSUNG Electronics Co., Ltd.**

Model(s): SM-X808U  
EUT Type: Tablet  
FCC Classification: PCS Licensed Transmitter (PCB)  
FCC Rule Part(s): §27, §2

| Mode (MHz)    | Tx Frequency (MHz)  | Emission Designator | Modulation | EIRP           |                  |
|---------------|---------------------|---------------------|------------|----------------|------------------|
|               |                     |                     |            | Max. Power (W) | Max. Power (dBm) |
| Sub6 n41 (20) | 2506.020 – 2679.990 | 18M0G7D             | PI/2 BPSK  | 0.421          | 26.24            |
|               |                     | 18M0G7D             | QPSK       | 0.413          | 26.16            |
|               |                     | 18M0W7D             | 16QAM      | 0.318          | 25.03            |
|               |                     | 18M0W7D             | 64QAM      | 0.219          | 23.40            |
|               |                     | 18M0W7D             | 256QAM     | 0.147          | 21.68            |
| Sub6 n41 (30) | 2511.000 – 2674.980 | 27M0G7D             | PI/2 BPSK  | 0.432          | 26.35            |
|               |                     | 27M0G7D             | QPSK       | 0.412          | 26.14            |
|               |                     | 27M0W7D             | 16QAM      | 0.315          | 24.98            |
|               |                     | 27M0W7D             | 64QAM      | 0.221          | 23.44            |
|               |                     | 27M0W7D             | 256QAM     | 0.152          | 21.82            |
| Sub6 n41 (40) | 2516.010 – 2670.000 | 35M9G7D             | PI/2 BPSK  | 0.420          | 26.23            |
|               |                     | 35M8G7D             | QPSK       | 0.397          | 25.99            |
|               |                     | 36M0W7D             | 16QAM      | 0.319          | 25.04            |
|               |                     | 36M0W7D             | 64QAM      | 0.221          | 23.45            |
|               |                     | 36M0W7D             | 256QAM     | 0.152          | 21.81            |
| Sub6 n41 (50) | 2521.020 – 2664.990 | 46M0G7D             | PI/2 BPSK  | 0.424          | 26.27            |
|               |                     | 45M9G7D             | QPSK       | 0.413          | 26.16            |
|               |                     | 45M8W7D             | 16QAM      | 0.328          | 25.16            |
|               |                     | 45M9W7D             | 64QAM      | 0.218          | 23.37            |
|               |                     | 46M0W7D             | 256QAM     | 0.149          | 21.74            |
| Sub6 n41 (60) | 2526.000 – 2659.980 | 58M1G7D             | PI/2 BPSK  | 0.407          | 26.10            |
|               |                     | 58M0G7D             | QPSK       | 0.404          | 26.06            |
|               |                     | 58M2W7D             | 16QAM      | 0.307          | 24.87            |
|               |                     | 58M2W7D             | 64QAM      | 0.208          | 23.17            |
|               |                     | 58M2W7D             | 256QAM     | 0.144          | 21.59            |
| Sub6 n41 (80) | 2536.020 – 2649.990 | 77M5G7D             | PI/2 BPSK  | 0.388          | 25.89            |
|               |                     | 77M5G7D             | QPSK       | 0.387          | 25.88            |
|               |                     | 77M4W7D             | 16QAM      | 0.281          | 24.49            |
|               |                     | 77M3W7D             | 64QAM      | 0.194          | 22.88            |

|                |                     |         |           |       |       |
|----------------|---------------------|---------|-----------|-------|-------|
|                |                     | 77M5W7D | 256QAM    | 0.137 | 21.35 |
| Sub6 n41 (90)  | 2541.000 – 2644.980 | 87M1G7D | PI/2 BPSK | 0.387 | 25.88 |
|                |                     | 87M1G7D | QPSK      | 0.386 | 25.87 |
|                |                     | 87M0W7D | 16QAM     | 0.284 | 24.53 |
|                |                     | 87M1W7D | 64QAM     | 0.194 | 22.87 |
|                |                     | 87M0W7D | 256QAM    | 0.136 | 21.33 |
| Sub6 n41 (100) | 2546.010 – 2640.000 | 96M9G7D | PI/2 BPSK | 0.406 | 26.08 |
|                |                     | 96M6G7D | QPSK      | 0.403 | 26.05 |
|                |                     | 96M6W7D | 16QAM     | 0.301 | 24.79 |
|                |                     | 96M8W7D | 64QAM     | 0.206 | 23.13 |
|                |                     | 96M9W7D | 256QAM    | 0.142 | 21.53 |

The measurements shown in this report were made in accordance with the procedures specified in CFR47 section §2.947. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them.

HCT CO., LTD. Certifies that no party to this application has subject to a denial of Federal benefits that includes FCC benefits pursuant to section 5301 of the Anti-Drug Abuse Act of 1998, 21 U.S. C.853(a)

Report No.: HCT-RF-2111-FC050

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REVIEWED BY



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Report prepared by : Jung Ki Lim  
Engineer of Telecommunication Testing Center

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Report approved by : Jong Seok Lee  
Manager of Telecommunication Testing Center

This test results were applied only to the test methods required by the standard.

This laboratory is not accredited for the test results marked \*.

The above Test Report is the accredited test result by (KS Q) ISO/IEC 17025 and KOLAS(Korea Laboratory Accreditation Scheme), which signed the ILAC-MRA. (HCT Accreditation No.: KT197)

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## Version

| TEST REPORT NO.   | DATE              | DESCRIPTION             |
|-------------------|-------------------|-------------------------|
| HCT-RF-2111-FC050 | November 24, 2021 | - First Approval Report |

The result shown in this test report refer only to the sample(s) tested unless otherwise stated.

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# MEASUREMENT REPORT

## 1. GENERAL INFORMATION

|                                 |                                                                                                                                                                                                                                                               |
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Applicant Name:</b>          | SAMSUNG Electronics Co., Ltd.                                                                                                                                                                                                                                 |
| <b>Address:</b>                 | 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea                                                                                                                                                                                    |
| <b>FCC ID:</b>                  | A3LSMX808U                                                                                                                                                                                                                                                    |
| <b>Application Type:</b>        | Certification                                                                                                                                                                                                                                                 |
| <b>FCC Classification:</b>      | PCS Licensed Transmitter (PCB)                                                                                                                                                                                                                                |
| <b>FCC Rule Part(s):</b>        | §27, §2                                                                                                                                                                                                                                                       |
| <b>EUT Type:</b>                | Tablet                                                                                                                                                                                                                                                        |
| <b>Model(s):</b>                | SM-X808U                                                                                                                                                                                                                                                      |
| <b>SCS(kHz):</b>                | 30                                                                                                                                                                                                                                                            |
| <b>Bandwidth(MHz):</b>          | 20, 30, 40, 50, 60, 80, 90, 100                                                                                                                                                                                                                               |
| <b>Waveform:</b>                | CP-OFDM, DFT-S-OFDM                                                                                                                                                                                                                                           |
| <b>Modulation:</b>              | DFT-S-OFDM: PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM<br>CP-OFDM: QPSK, 16QAM, 64QAM, 256QAM                                                                                                                                                                      |
| <b>Tx Frequency(SCS 30kHz):</b> | 2506.020 – 2679.990 : 20 MHz<br>2511.000 – 2674.980 : 30 MHz<br>2516.010 – 2670.000 : 40 MHz<br>2521.020 – 2664.990 : 50 MHz<br>2526.000 – 2659.980 : 60 MHz<br>2536.020 – 2649.990 : 80 MHz<br>2541.000 – 2644.980 : 90 MHz<br>2546.010 – 2640.000 : 100 MHz |
| <b>Date(s) of Tests:</b>        | September 13, 2021 ~ November 24, 2021                                                                                                                                                                                                                        |
| <b>Serial number:</b>           | Radiated: R32R9001FVV<br>Conducted: R32R9001JTN                                                                                                                                                                                                               |

## **2. INTRODUCTION**

### **2.1. DESCRIPTION OF EUT**

The EUT was a Tablet with UMTS and LTE, Sub6.

It also supports IEEE 802.11 a/b/g/n/ac/ax (20/40/80/160), WIFI 6E, Bluetooth, BT LE, WPT, mmWave(n260/261).

### **2.2. MEASURING INSTRUMENT CALIBRATION**

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment, which is traceable to recognized national standards.

### **2.3. TEST FACILITY**

The Fully-anechoic chamber and conducted measurement facility used to collect the radiated data are located at the **74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, 17383, Rep. of KOREA.**

### 3. DESCRIPTION OF TESTS

#### 3.1 TEST PROCEDURE

| Test Description                                                | Test Procedure Used                                                                                                           |
|-----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| Occupied Bandwidth                                              | - KDB 971168 D01 v03r01 – Section 4.3<br>- ANSI C63.26-2015 – Section 5.4.4                                                   |
| Channel Edge                                                    | - KDB 971168 D01 v03r01 – Section 6.0<br>- ANSI C63.26-2015 – Section 5.7                                                     |
| Spurious and Harmonic Emissions at Antenna Terminal             | - KDB 971168 D01 v03r01 – Section 6.0<br>- ANSI C63.26-2015 – Section 5.7                                                     |
| Conducted Output Power                                          | - N/A (See SAR Report)                                                                                                        |
| Peak- to- Average Ratio                                         | - KDB 971168 D01 v03r01 – Section 5.7<br>- ANSI C63.26-2015 – Section 5.2.3.4<br>- ANSI C63.26-2015 – Section 5.2.6(only GSM) |
| Frequency stability                                             | - ANSI C63.26-2015 – Section 5.6                                                                                              |
| Effective Radiated Power/<br>Effective Isotropic Radiated Power | - KDB 971168 D01 v03r01 – Section 5.2 & 5.8<br>- ANSI/TIA-603-E-2016 – Section 2.2.17                                         |
| Radiated Spurious and Harmonic Emissions                        | - KDB 971168 D01 v03r01 – Section 6.2<br>- ANSI/TIA-603-E-2016 – Section 2.2.12                                               |

### 3.2 RADIATED POWER

#### Test Overview

Radiated tests are performed in the Fully-anechoic chamber.

The equipment under test is placed on a non-conductive table 3-meters away from the receive antenna in accordance with ANSI/TIA-603-E-2016 Clause 2.2.17.

#### Test Settings

1. Radiated power measurements are performed using the signal analyzer's "channel power" measurement capability for signals with continuous operation.
2. RBW = 1 – 5 % of the expected OBW, not to exceed 1 MHz
3. VBW  $\geq 3 \times$  RBW
4. Span = 1.5 times the OBW
5. No. of sweep points  $> 2 \times$  span / RBW
6. Detector = RMS
7. Trigger is set to "free run" for signals with continuous operation with the sweep times set to "auto".
8. The integration bandwidth was roughly set equal to the measured OBW of the signal for signals with continuous operation.
9. Trace mode = trace averaging (RMS) over 100 sweeps
10. The trace was allowed to stabilize

#### Test Note

1. The turntable is rotated through 360 degrees, and the receiving antenna scans in order to determine the level of the maximized emission.
2. A half wave dipole is then substituted in place of the EUT. For emissions above 1 GHz, a horn antenna is substituted in place of the EUT. The substitute antenna is driven by a signal generator and the previously recorded signal was duplicated.

The power is calculated by the following formula;

$$P_d \text{ (dBm)} = P_g \text{ (dBm)} - \text{cable loss (dB)} + \text{antenna gain (dB)}$$

Where:  $P_d$  is the dipole equivalent power and  $P_g$  is the generator output power into the substitution antenna.

3. The maximum value is calculated by adding the forward power to the calibrated source plus its appropriate gain value.  
These steps are repeated with the receiving antenna in both vertical and horizontal polarization. the difference between the gain of the horn and an isotropic antenna are taken into consideration
4. The EUT was tested in three orthogonal planes(X, Y, Z) and in all possible test configurations and positioning.
5. All measurements are performed as RMS average measurements while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies.

### 3.3 RADIATED SPURIOUS EMISSIONS

#### Test Overview

Radiated tests are performed in the Fully-anechoic chamber.

Radiated Spurious Emission Measurements at 3 meters by Substitution Method according to ANSI/TIA-603-E-2016.

#### Test Settings

1. RBW = 100 kHz for emissions below 1 GHz and 1 MHz for emissions above 1 GHz
2. VBW  $\geq 3 \times$  RBW
3. Span = 1.5 times the OBW
4. No. of sweep points  $> 2 \times$  span / RBW
5. Detector = Peak
6. Trace mode = Max Hold
7. The trace was allowed to stabilize
8. Test channel : Low/ Middle/ High
9. Frequency range : We are performed all frequency to 10<sup>th</sup> harmonics from 9 kHz.

#### Test Note

1. Measurements value show only up to 3 maximum emissions noted, or would be lesser  
if no specific emissions from the EUT are recorded (ie: margin  $> 20$  dB from the applicable limit)  
and considered that's already beyond the background noise floor.
2. The EUT was tested in three orthogonal planes(X, Y, Z) and in all possible test configurations and positioning.  
The worst case emissions are reported with the EUT positioning, modulations, RB sizes and offsets,  
and channel bandwidth configurations shown in the test data
3. For spurious emissions above 1 GHz, a horn antenna is substituted in place of the EUT. The substitute antenna is driven  
by a signal generator and the previously recorded signal was duplicated.  
The spurious emissions is calculated by the following formula;

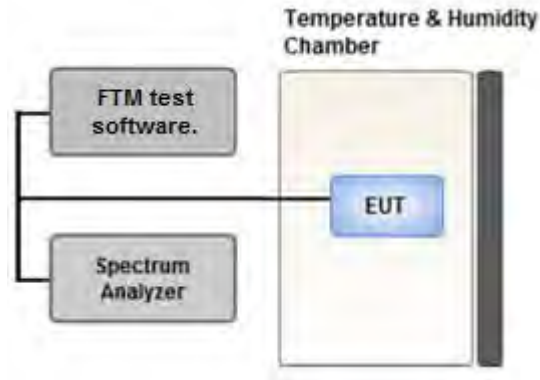
$$\text{Result}_{(\text{dBm})} = \text{Pg}_{(\text{dBm})} - \text{cable loss}_{(\text{dB})} + \text{antenna gain}_{(\text{dBi})}$$

Where: Pg is the generator output power into the substitution antenna.

If the fundamental frequency is below 1 GHz, RF output power has been converted to EIRP.

$$\text{EIRP}_{(\text{dBm})} = \text{ERP}_{(\text{dBm})} + 2.15$$

### 3.4 PEAK- TO- AVERAGE RATIO



**Test setup**

#### ① CCDF Procedure for PAPR

##### **Test Settings**

1. Set resolution/measurement bandwidth  $\geq$  signal's occupied bandwidth;
2. Set the number of counts to a value that stabilizes the measured CCDF curve;
3. Set the measurement interval as follows:
  - .- for continuous transmissions, set to 1 ms,
  - .- or burst transmissions, employ an external trigger that is synchronized with the EUT burst timing sequence, or use the internal burst trigger with a trigger level that allows the burst to stabilize and set the measurement interval to a time that is less than or equal to the burst duration.
4. Record the maximum PAPR level associated with a probability of 0.1 %.

#### ② Alternate Procedure for PAPR

Use one of the procedures presented in 5.2(ANSI C63.26-2015) to measure the total peak power and record as  $P_{Pk}$ .

Use one of the applicable procedures presented 5.2(ANSI C63.26-2015) to measure the total average power and record as  $P_{Avg}$ . Determine the P.A.R. from:

$$P.A.R. \text{ (dB)} = P_{Pk} \text{ (dBm)} - P_{Avg} \text{ (dBm)} \quad (P_{Avg} = \text{Average Power} + \text{Duty cycle Factor})$$

**Test Settings(Peak Power)**

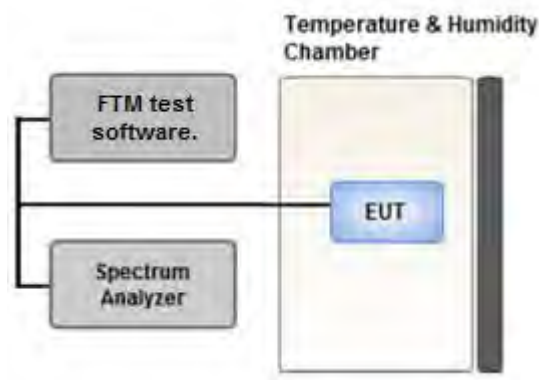
The measurement instrument must have a RBW that is greater than or equal to the OBW of the signal to be measured and a VBW  $\geq 3 \times$  RBW.

1. Set the RBW  $\geq$  OBW.
2. Set VBW  $\geq 3 \times$  RBW.
3. Set span  $\geq 2 \times$  OBW.
4. Sweep time  $\geq 10 \times$  (number of points in sweep)  $\times$  (transmission symbol period).
5. Detector = peak.
6. Trace mode = max hold.
7. Allow trace to fully stabilize.
8. Use the peak marker function to determine the peak amplitude level.

**Test Settings(Average Power)**

1. Set span to  $2 \times$  to  $3 \times$  the OBW.
2. Set RBW  $\geq$  OBW.
3. Set VBW  $\geq 3 \times$  RBW.
4. Set number of measurement points in sweep  $\geq 2 \times$  span / RBW.
5. Sweep time:  
Set  $\geq [10 \times (\text{number of points in sweep}) \times (\text{transmission period})]$  for single sweep (automation-compatible) measurement. The transmission period is the (on + off) time.
6. Detector = power averaging (rms).
7. Set sweep trigger to "free run."
8. Trace average at least 100 traces in power averaging (rms) mode if sweep is set to auto-couple. (To accurately determine the average power over the on and off period of the transmitter, it can be necessary to increase the number of traces to be averaged above 100 or, if using a manually configured sweep time, increase the sweep time.)
9. Use the peak marker function to determine the maximum amplitude level.
10. Add  $[10 \log (1/\text{duty cycle})]$  to the measured maximum power level to compute the average power during continuous transmission. For example, add  $[10 \log (1/0.25)] = 6 \text{ dB}$  if the duty cycle is a constant 25 %.

### 3.5 OCCUPIED BANDWIDTH.



#### Test setup

The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 % of the total mean power of a given emission.

The EUT makes a call to the communication simulator.

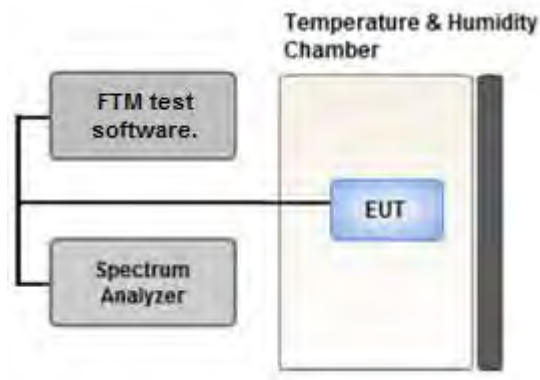
The conducted occupied bandwidth used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.

The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth

#### Test Settings

1. The signal analyzer's automatic bandwidth measurement capability was used to perform the 99 % occupied bandwidth and the 26 dB bandwidth. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
2. RBW = 1 – 5 % of the expected OBW
3. VBW  $\geq 3 \times$  RBW
4. Detector = Peak
5. Trace mode = max hold
6. Sweep = auto couple
7. The trace was allowed to stabilize
8. If necessary, steps 2 – 7 were repeated after changing the RBW such that it would be within 1 – 5 % of the 99 % occupied bandwidth observed in Step 7

### 3.6 SPURIOUS AND HARMONIC EMISSIONS AT ANTENNA TERMINAL



**Test setup**

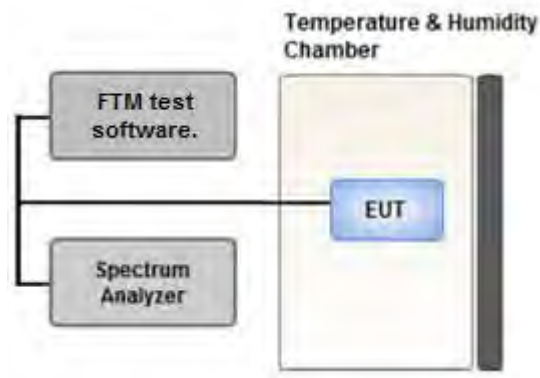
#### **Test Overview**

The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10th harmonic. All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

#### **Test Settings**

1. RBW = 1 MHz
2. VBW  $\geq$  3 MHz
3. Detector = RMS
4. Trace Mode = trace average
5. Sweep time = auto
6. Number of points in sweep  $\geq$  2 x Span / RBW

### 3.7 CHANNEL EDGE



**Test setup**

#### **Test Overview**

All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at its maximum power and at the appropriate frequencies. All data rates were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

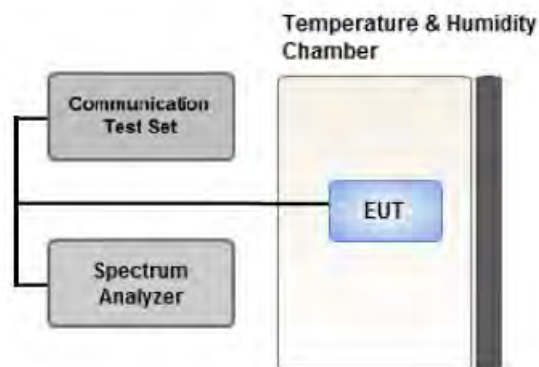
#### **Test Settings**

1. Start and stop frequency were set such that the band edge would be placed in the center of the plot
2. Span was set large enough so as to capture all out of band emissions near the band edge
3. Within 1 MHz of the channel edge the RBW should be 2 % of EBW, then 1 MHz after that.
4. VBW > 3 x RBW
5. Detector = RMS
6. Number of sweep points  $\geq 2 \times \text{Span/RBW}$
7. Trace mode = trace average
8. Sweep time = auto couple
9. The trace was allowed to stabilize

**Test Notes**

1. The attenuation factor shall be not less than  $40 + 10 \log (P)$  dB on all frequencies between the channel edge and 5 megahertz from the channel edge,
2.  $43 + 10 \log (P)$  dB on all frequencies between 5 megahertz and X megahertz from the channel edge.
3.  $55 + 10 \log (P)$  dB on all frequencies more than X megahertz from the channel edge.
4. The attenuation factor shall not be less than  $43 + 10 \log (P)$  dB on all frequencies between 2490.5 MHz and 2496 MHz.
5.  $55 + 10 \log (P)$  dB at or below 2490.5 MHz.
6. X is the greater of 6MHz or the actual emission bandwidth
7. The band edge measurement used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer

### 3.8 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE



**Test setup**

#### **Test Overview**

Frequency stability testing is performed in accordance with the guidelines of ANSI C63.26-2015.

The frequency stability of the transmitter is measured by:

1. Temperature:

The temperature is varied from -30 °C to +50 °C in 10 °C increments using an environmental chamber.

2. Primary Supply Voltage:

- Unless otherwise specified, vary primary supply voltage from 85 % to 115 % of the nominal value for other than hand carried battery equipment.
- For hand carried, battery powered equipment, reduce the primary ac or dc supply voltage to the battery operating end point, which shall be specified by the manufacturer.

#### **Test Settings**

1. The carrier frequency of the transmitter is measured at room temperature (20 °C to provide a reference).
2. The equipment is turned on in a "standby" condition for fifteen minutes before applying power to the transmitter. Measurement of the carrier frequency of the transmitter is made within one minute after applying power to the transmitter.
3. Frequency measurements are made at 10 °C intervals ranging from -30 °C to +50 °C. A period of at least one half-hour is provided to allow stabilization of the equipment at each temperature level.

### 3.9 WORST CASE(RADIATED TEST)

- Waveform : All Waveform of operation were investigated and the worst case configuration results are reported.

(Worst case: DFT-S-OFDM)

- The EUT was tested in three orthogonal planes(X, Y, Z) and in all possible test configurations and positioning.

- All modes of operation were investigated and the worst case configuration results are reported.

Mode: Power Class 2(SA), Power Class 3(SA/ NSA), SRS

Worst case: Power Class 2(SA)

- All RB sizes, offsets of operation were investigated and the worst case configuration results are reported.

Please refer to the table below.

- All modes of operation were investigated and the worst case configuration results are reported.

Mode : Stand alone, Stand alone + External accessories (Earphone, keyboard, AC adapter, etc)

Worst case : Stand alone

[ Worst case ]

| Test Description                         | Modulation                                        | RB size | RB offset | Axis |
|------------------------------------------|---------------------------------------------------|---------|-----------|------|
| Effective Isotropic Radiated Power       | PI/2 BPSK,<br>QPSK,<br>16QAM,<br>64QAM,<br>256QAM | 1       | 1         | X,Z  |
| Radiated Spurious and Harmonic Emissions | PI/2 BPSK                                         | 1       | 1         | X    |

### 3.10 WORST CASE(CONDUCTED TEST)

- Waveform : All Waveform of operation were investigated and the worst case configuration results are reported.  
(Worst case: DFT-S-OFDM)
- Modulation : All Modulation of operation were investigated and the worst case configuration results are reported.  
(Worst case: PI/2 BPSK)
- All modes of operation were investigated and the worst case configuration results are reported.  
Mode: Power Class 2(SA), Power Class 3(SA/ NSA), SRS  
Worst case: Power Class 2(SA)
- All RB sizes, offsets of operation were investigated and the worst case configuration results are reported.  
Please refer to the table below.

[ Worst case ]

| Test Description                                       | Modulation                                        | Bandwidth (MHz)                       | Frequency            | RB size | RB offset |
|--------------------------------------------------------|---------------------------------------------------|---------------------------------------|----------------------|---------|-----------|
| Occupied Bandwidth,<br>Peak-To-Average Ratio           | PI/2 BPSK,<br>QPSK,<br>16QAM,<br>64QAM,<br>256QAM | 20, 30, 40,<br>50, 60, 80,<br>90, 100 | Mid                  | Full RB | 0         |
| Channel Edge                                           | PI/2 BPSK                                         | 20                                    | Low                  | 1       | 0         |
|                                                        |                                                   |                                       | High                 | 1       | 50        |
|                                                        |                                                   | 30                                    | Low                  | 1       | 0         |
|                                                        |                                                   |                                       | High                 | 1       | 77        |
|                                                        |                                                   | 40                                    | Low                  | 1       | 0         |
|                                                        |                                                   |                                       | High                 | 1       | 105       |
|                                                        |                                                   | 50                                    | Low                  | 1       | 0         |
|                                                        |                                                   |                                       | High                 | 1       | 132       |
|                                                        |                                                   | 60                                    | Low                  | 1       | 0         |
|                                                        |                                                   |                                       | High                 | 1       | 161       |
|                                                        |                                                   | 80                                    | Low                  | 1       | 0         |
|                                                        |                                                   |                                       | High                 | 1       | 216       |
|                                                        |                                                   | 90                                    | Low                  | 1       | 0         |
|                                                        |                                                   |                                       | High                 | 1       | 244       |
|                                                        |                                                   | 100                                   | Low                  | 1       | 0         |
|                                                        |                                                   |                                       | High                 | 1       | 272       |
|                                                        |                                                   | 20, 30, 40,<br>50, 60, 80,<br>90, 100 | Low,<br>Mid<br>High  | Full RB | 0         |
| Spurious and Harmonic Emissions at<br>Antenna Terminal | PI/2 BPSK                                         | 20, 30, 40,<br>50, 60, 80,<br>90, 100 | Low,<br>Mid,<br>High | 1       | 1         |

#### 4. LIST OF TEST EQUIPMENT

| Equipment                                            | Model                       | Manufacture            | Serial No.  | Due to Calibration | Calibration Interval |
|------------------------------------------------------|-----------------------------|------------------------|-------------|--------------------|----------------------|
| Precision Dipole Antenna                             | UHAP                        | Schwarzbeck            | 01273       | 05/30/2022         | Biennial             |
| Precision Dipole Antenna                             | UHAP                        | Schwarzbeck            | 01274       | 05/30/2022         | Biennial             |
| Horn Antenna(1~18GHz)                                | BBHA 9120D                  | Schwarzbeck            | 02289       | 05/08/2022         | Biennial             |
| Horn Antenna(1~18GHz)                                | BBHA 9120D                  | Schwarzbeck            | 9120D-1299  | 05/04/2022         | Biennial             |
| Horn Antenna(15~40GHz)                               | BBHA 9170                   | Schwarzbeck            | BBHA9170342 | 10/13/2022         | Biennial             |
| Horn Antenna(15~40GHz)                               | BBHA 9170                   | Schwarzbeck            | BBHA9170124 | 02/11/2022         | Biennial             |
| Loop Antenna(9kHz~30 MHz)                            | FMZB1513                    | Rohde & Schwarz        | 1513-175    | 05/18/2022         | Biennial             |
| Bilog Antenna                                        | VULB9160                    | Schwarzbeck            | 3150        | 03/03/2023         | Biennial             |
| Hybrid Antenna                                       | VULB9160                    | Schwarzbeck            | 760         | 02/22/2023         | Biennial             |
| High Pass Filter                                     | WHKX10-900-1000-15000-40SS  | Wainwright Instruments | 15          | 06/15/2022         | Annual               |
| High Pass Filter                                     | WHKX10-2700-3000-18000-40SS | Wainwright Instruments | 145         | 06/15/2022         | Annual               |
| High Pass Filter                                     | WHNX6-4740-6000-26500-40CC  | Wainwright Instruments | 11          | 06/15/2022         | Annual               |
| LOW NOISE AMP (100 MHz ~ 18GHz)                      | CBLU1183540B-01             | CERNEX                 | 26822       | 06/15/2022         | Annual               |
| Power Amplifier                                      | CBL18265035                 | CERNEX                 | 22966       | 12/04/2021         | Annual               |
| Power Amplifier                                      | CBL26405040                 | CERNEX                 | 25956       | 03/23/2022         | Annual               |
| DC Power Supply                                      | E3632A                      | Hewlett Packard        | MY40004427  | 09/15/2022         | Annual               |
| Power Splitter(DC~26.5 GHz)                          | 11667B                      | Hewlett Packard        | 11275       | 04/07/2022         | Annual               |
| Chamber                                              | SU-642                      | ESPEC                  | 93008124    | 03/15/2022         | Annual               |
| Signal Analyzer(10Hz~26.5GHz)                        | N9020A                      | Agilent                | MY51110063  | 04/22/2022         | Annual               |
| ATTENUATOR(20dB)                                     | 8493C                       | Hewlett Packard        | 17280       | 06/01/2022         | Annual               |
| Spectrum Analyzer(10Hz~40GHz)                        | FSV40                       | REOHDE & SCHWARZ       | 101436      | 03/02/2022         | Annual               |
| Base Station                                         | 8960 (E5515C)               | Agilent                | MY48360800  | 08/18/2022         | Annual               |
| Wideband Radio Communication Tester                  | MT8821C                     | Anritsu Corp.          | 6262287700  | 05/25/2022         | Annual               |
| Wideband Radio Communication Tester                  | MT8000A                     | Anritsu Corp.          | 6262302511  | 05/26/2022         | Annual               |
| SIGNAL GENERATOR (100kHz~40GHz)                      | SMB100A                     | REOHDE & SCHWARZ       | 177633      | 07/05/2022         | Annual               |
| Signal Analyzer(5Hz~40.0GHz)                         | N9030B                      | KEYSIGHT               | MY55480167  | 06/02/2022         | Annual               |
| 4-Way Divider                                        | ZC4PD-K1844+                | Mini-Circuits          | 942907      | 09/27/2022         | Annua                |
| FCC LTE Mobile Conducted RF Automation Test Software | -                           | HCT CO., LTD.,         | -           | -                  | -                    |

#### Note:

- Equipment listed above that has a calibration due date during the testing period, the testing is completed before equipment expiration date.
- Especially, all antenna for measurement is calibrated in accordance with the requirements of C63.5 (Version : 2017).

## 5. MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.4:2014. All measurement uncertainty values are shown with a coverage factor of  $k = 2$  to indicate a 95 % level of confidence. The measurement data shown herein meets or exceeds the  $U_{\text{CISPR}}$  measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

| Parameter                                | Expanded Uncertainty ( $\pm$ dB)           |
|------------------------------------------|--------------------------------------------|
| Conducted Disturbance (150 kHz ~ 30 MHz) | 1.82 (Confidence level about 95 %, $k=2$ ) |
| Radiated Disturbance (9 kHz ~ 30 MHz)    | 3.40 (Confidence level about 95 %, $k=2$ ) |
| Radiated Disturbance (30 MHz ~ 1 GHz)    | 4.80 (Confidence level about 95 %, $k=2$ ) |
| Radiated Disturbance (1 GHz ~ 18 GHz)    | 5.70 (Confidence level about 95 %, $k=2$ ) |
| Radiated Disturbance (18 GHz ~ 40 GHz)   | 5.05 (Confidence level about 95 %, $k=2$ ) |

## 6. SUMMARY OF TEST RESULTS

### 6.1 Test Condition : Conducted Test

| Test Description                                                 | FCC Part Section(s)      | Test Limit                                                                                                                                                                                                                                                                                                                                                                                                                                  | Test Result      |
|------------------------------------------------------------------|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| Occupied Bandwidth                                               | §2.1049                  | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                         | PASS             |
| Band Edge / Spurious and Harmonic Emissions at Antenna Terminal. | §2.1051,<br>§27.53(m)(4) | <ul style="list-style-type: none"> <li>■ <math>&lt; 40 + 10\log_{10} (P[\text{Watts}])</math> at Channel edges</li> <li>■ <math>&lt; 43 + 10\log_{10} (P[\text{Watts}])</math> between 5 and X MHz from Channel edges</li> <li>■ <math>&lt; 55 + 10\log_{10} (P[\text{Watts}])</math> beyond X MHz beyond from Channel edges</li> <li>■ <math>&lt; 43 + 10 \log (P)</math> dB on all frequencies between 2490.5 MHz and 2496 MHz</li> </ul> | PASS             |
| Conducted Output Power                                           | §2.1046                  | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                         | <u>See Note1</u> |
| Frequency stability / variation of ambient temperature           | §2.1055,<br>§27.54       | Emission must remain in band                                                                                                                                                                                                                                                                                                                                                                                                                | PASS             |

**Note:**

1. See SAR Report
2. All conducted tests were tested using 5G Wireless Tester.

### 6.2 Test Condition : Radiated Test

| Test Description                         | FCC Part Section(s)      | Test Limit                             | Test Result |
|------------------------------------------|--------------------------|----------------------------------------|-------------|
| Equivalent Isotropic Radiated Power      | §27.50(h)(2)             | $< 2$ Watts max. EIRP                  | PASS        |
| Radiated Spurious and Harmonic Emissions | §2.1053,<br>§27.53(m)(4) | $< 55 + 10\log_{10} (P[\text{Watts}])$ | PASS        |

**Note:**

1. Radiated tests were tested using 5G Wireless Tester.

## 7. SAMPLE CALCULATION

### 7.1 ERP Sample Calculation

| Ch./ Freq. |            | Measured<br>Level(dBm) | Substitute<br>Level(dBm) | Ant. Gain<br>(dBd) | C.L  | Pol. | ERP   |       |
|------------|------------|------------------------|--------------------------|--------------------|------|------|-------|-------|
| channel    | Freq.(MHz) |                        |                          |                    |      |      | W     | dBm   |
| 128        | 824.20     | -21.37                 | 38.40                    | -10.61             | 0.95 | H    | 0.483 | 26.84 |

$$\text{ERP} = \text{Substitute LEVEL(dBm)} + \text{Ant. Gain} - \text{CL(Cable Loss)}$$

- 1) The EUT mounted on a non-conductive turntable is 2.5 meter above test site ground level.
- 2) During the test , the turn table is rotated until the maximum signal is found.
- 3) Record the field strength meter's level.
- 4) Replace the EUT with dipole/Horn antenna that is connected to a calibrated signal generator.
- 5) Increase the signal generator output till the field strength meter's level is equal to the item (3).
- 6) The signal generator output level with Ant. Gain and cable loss are the rating of effective radiated power.

### 7.2 EIRP Sample Calculation

| Ch./ Freq. |            | Measured<br>Level(dBm) | Substitute<br>Level(dBm) | Ant. Gain<br>(dBi) | C.L  | Pol. | EIRP  |       |
|------------|------------|------------------------|--------------------------|--------------------|------|------|-------|-------|
| channel    | Freq.(MHz) |                        |                          |                    |      |      | W     | dBm   |
| 518598     | 2593.0     | -15.75                 | 18.45                    | 9.90               | 1.76 | H    | 0.456 | 26.59 |

$$\text{EIRP} = \text{Substitute LEVEL(dBm)} + \text{Ant. Gain} - \text{CL(Cable Loss)}$$

- 1) The EUT mounted on a non-conductive turntable is 2.5 meter above test site ground level.
- 2) During the test , the turn table is rotated until the maximum signal is found.
- 3) Record the field strength meter's level.
- 4) Replace the EUT with dipole/Horn antenna that is connected to a calibrated signal generator.
- 5) Increase the signal generator output till the field strength meter's level is equal to the item (3).
- 6) The signal generator output level with Ant. Gain and cable loss are the rating of equivalent isotropic radiated power.

### 7.3. Emission Designator

#### GSM Emission Designator

Emission Designator = 249KGXW

GSM BW = 249 kHz

G = Phase Modulation

X = Cases not otherwise covered

W = Combination (Audio/Data)

#### EDGE Emission Designator

Emission Designator = 249KG7W

GSM BW = 249 kHz

G = Phase Modulation

7 = Quantized/Digital Info

W = Combination (Audio/Data)

#### WCDMA Emission Designator

Emission Designator = 4M17F9W

WCDMA BW = 4.17 MHz

F = Frequency Modulation

9 = Composite Digital Info

W = Combination (Audio/Data)

#### QPSK Modulation

Emission Designator = 4M48G7D

LTE BW = 4.48 MHz

G = Phase Modulation

7 = Quantized/Digital Info

D = Data transmission; telemetry; telecommand

#### QAM Modulation

Emission Designator = 4M48W7D

LTE BW = 4.48 MHz

W = Amplitude/Angle Modulated

7 = Quantized/Digital Info

D = Data transmission; telemetry; telecommand

## 8. TEST DATA

### 8.1 EQUIVALENT ISOTROPIC RADIATED POWER

| Freq<br>(MHz) | Mod/<br>Bandwidth<br>[SCS (kHz)] | Modulation | Measured<br>Level (dBm) | Substitute<br>Level (dBm) | Ant.<br>Gain(dBi) | C.L  | Pol | Limit  | EIRP  |       |
|---------------|----------------------------------|------------|-------------------------|---------------------------|-------------------|------|-----|--------|-------|-------|
|               |                                  |            |                         |                           |                   |      |     | W      | W     | dBm   |
| 2506.020      | Sub6 41/<br>20 MHz<br>[30 kHz]   | PI/2 BPSK  | -18.56                  | 17.99                     | 10.24             | 2.50 | H   | < 2.00 | 0.374 | 25.73 |
|               |                                  | QPSK       | -18.67                  | 17.88                     | 10.24             | 2.50 | H   |        | 0.365 | 25.62 |
|               |                                  | 16-QAM     | -19.81                  | 16.74                     | 10.24             | 2.50 | H   |        | 0.281 | 24.48 |
|               |                                  | 64-QAM     | -21.75                  | 14.80                     | 10.24             | 2.50 | H   |        | 0.180 | 22.54 |
|               |                                  | 256-QAM    | -23.06                  | 13.49                     | 10.24             | 2.50 | H   |        | 0.133 | 21.23 |
| 2592.990      |                                  | PI/2 BPSK  | -20.17                  | 16.29                     | 10.42             | 2.56 | H   |        | 0.260 | 24.15 |
|               |                                  | QPSK       | -20.26                  | 16.20                     | 10.42             | 2.56 | H   |        | 0.255 | 24.06 |
|               |                                  | 16-QAM     | -21.49                  | 14.97                     | 10.42             | 2.56 | H   |        | 0.192 | 22.83 |
|               |                                  | 64-QAM     | -23.26                  | 13.20                     | 10.42             | 2.56 | H   |        | 0.128 | 21.06 |
|               |                                  | 256-QAM    | -24.72                  | 11.74                     | 10.42             | 2.56 | H   |        | 0.091 | 19.60 |
| 2679.990      |                                  | PI/2 BPSK  | -19.25                  | 18.53                     | 10.34             | 2.63 | H   |        | 0.421 | 26.24 |
|               |                                  | QPSK       | -19.33                  | 18.45                     | 10.34             | 2.63 | H   |        | 0.413 | 26.16 |
|               |                                  | 16-QAM     | -20.46                  | 17.32                     | 10.34             | 2.63 | H   |        | 0.318 | 25.03 |
|               |                                  | 64-QAM     | -22.09                  | 15.69                     | 10.34             | 2.63 | H   |        | 0.219 | 23.40 |
|               |                                  | 256-QAM    | -23.81                  | 13.97                     | 10.34             | 2.63 | H   |        | 0.147 | 21.68 |

| Freq<br>(MHz) | Mod/<br>Bandwidth<br>[SCS (kHz)] | Modulation | Measured<br>Level (dBm) | Substitute<br>Level (dBm) | Ant.<br>Gain(dBi) | C.L  | Pol | Limit  | EIRP  |       |
|---------------|----------------------------------|------------|-------------------------|---------------------------|-------------------|------|-----|--------|-------|-------|
|               |                                  |            |                         |                           |                   |      |     | W      | W     | dBm   |
| 2511.000      | Sub6 41/<br>30 MHz<br>[30 kHz]   | PI/2 BPSK  | -18.03                  | 18.66                     | 10.20             | 2.51 | H   | < 2.00 | 0.432 | 26.35 |
|               |                                  | QPSK       | -18.24                  | 18.45                     | 10.20             | 2.51 | H   |        | 0.412 | 26.14 |
|               |                                  | 16-QAM     | -19.40                  | 17.29                     | 10.20             | 2.51 | H   |        | 0.315 | 24.98 |
|               |                                  | 64-QAM     | -20.94                  | 15.75                     | 10.20             | 2.51 | H   |        | 0.221 | 23.44 |
|               |                                  | 256-QAM    | -22.56                  | 14.13                     | 10.20             | 2.51 | H   |        | 0.152 | 21.82 |
| 2592.990      |                                  | PI/2 BPSK  | -19.90                  | 16.56                     | 10.42             | 2.56 | H   |        | 0.277 | 24.42 |
|               |                                  | QPSK       | -19.91                  | 16.55                     | 10.42             | 2.56 | H   |        | 0.276 | 24.41 |
|               |                                  | 16-QAM     | -21.08                  | 15.38                     | 10.42             | 2.56 | H   |        | 0.211 | 23.24 |
|               |                                  | 64-QAM     | -22.82                  | 13.64                     | 10.42             | 2.56 | H   |        | 0.141 | 21.50 |
|               |                                  | 256-QAM    | -24.41                  | 12.05                     | 10.42             | 2.56 | H   |        | 0.098 | 19.91 |
| 2674.980      |                                  | PI/2 BPSK  | -19.27                  | 18.06                     | 10.30             | 2.62 | H   |        | 0.375 | 25.74 |
|               |                                  | QPSK       | -19.28                  | 18.05                     | 10.30             | 2.62 | H   |        | 0.374 | 25.73 |
|               |                                  | 16-QAM     | -20.53                  | 16.80                     | 10.30             | 2.62 | H   |        | 0.281 | 24.48 |
|               |                                  | 64-QAM     | -22.19                  | 15.14                     | 10.30             | 2.62 | H   |        | 0.191 | 22.82 |
|               |                                  | 256-QAM    | -23.78                  | 13.55                     | 10.30             | 2.62 | H   |        | 0.133 | 21.23 |

| Freq<br>(MHz) | Mod/<br>Bandwidth<br>[SCS (kHz)] | Modulation | Measured<br>Level (dBm) | Substitute<br>Level (dBm) | Ant.<br>Gain(dBi) | C.L  | Pol | Limit  | EIRP  |       |
|---------------|----------------------------------|------------|-------------------------|---------------------------|-------------------|------|-----|--------|-------|-------|
|               |                                  |            |                         |                           |                   |      |     | W      | W     | dBm   |
| 2516.010      | Sub6 41/<br>40 MHz<br>[30 kHz]   | PI/2 BPSK  | -18.14                  | 18.44                     | 10.32             | 2.53 | H   | < 2.00 | 0.420 | 26.23 |
|               |                                  | QPSK       | -18.38                  | 18.20                     | 10.32             | 2.53 | H   |        | 0.397 | 25.99 |
|               |                                  | 16-QAM     | -19.33                  | 17.25                     | 10.32             | 2.53 | H   |        | 0.319 | 25.04 |
|               |                                  | 64-QAM     | -20.92                  | 15.66                     | 10.32             | 2.53 | H   |        | 0.221 | 23.45 |
|               |                                  | 256-QAM    | -22.56                  | 14.02                     | 10.32             | 2.53 | H   |        | 0.152 | 21.81 |
| 2592.990      |                                  | PI/2 BPSK  | -19.86                  | 16.60                     | 10.42             | 2.56 | H   |        | 0.279 | 24.46 |
|               |                                  | QPSK       | -19.87                  | 16.59                     | 10.42             | 2.56 | H   |        | 0.279 | 24.45 |
|               |                                  | 16-QAM     | -21.10                  | 15.36                     | 10.42             | 2.56 | H   |        | 0.210 | 23.22 |
|               |                                  | 64-QAM     | -22.81                  | 13.65                     | 10.42             | 2.56 | H   |        | 0.142 | 21.51 |
|               |                                  | 256-QAM    | -24.47                  | 11.99                     | 10.42             | 2.56 | H   |        | 0.097 | 19.85 |
| 2670.000      |                                  | PI/2 BPSK  | -19.41                  | 17.46                     | 10.26             | 2.60 | H   |        | 0.325 | 25.12 |
|               |                                  | QPSK       | -19.42                  | 17.45                     | 10.26             | 2.60 | H   |        | 0.324 | 25.11 |
|               |                                  | 16-QAM     | -20.69                  | 16.18                     | 10.26             | 2.60 | H   |        | 0.242 | 23.84 |
|               |                                  | 64-QAM     | -22.40                  | 14.47                     | 10.26             | 2.60 | H   |        | 0.163 | 22.13 |
|               |                                  | 256-QAM    | -23.94                  | 12.93                     | 10.26             | 2.60 | H   |        | 0.115 | 20.59 |

| Freq<br>(MHz) | Mod/<br>Bandwidth<br>[SCS (kHz)] | Modulation | Measured<br>Level (dBm) | Substitute<br>Level (dBm) | Ant.<br>Gain(dBi) | C.L  | Pol | Limit  | EIRP  |       |
|---------------|----------------------------------|------------|-------------------------|---------------------------|-------------------|------|-----|--------|-------|-------|
|               |                                  |            |                         |                           |                   |      |     | W      | W     | dBm   |
| 2521.020      | Sub6 41/<br>50 MHz<br>[30 kHz]   | PI/2 BPSK  | -18.08                  | 18.46                     | 10.36             | 2.55 | H   | < 2.00 | 0.424 | 26.27 |
|               |                                  | QPSK       | -18.19                  | 18.35                     | 10.36             | 2.55 | H   |        | 0.413 | 26.16 |
|               |                                  | 16-QAM     | -19.19                  | 17.35                     | 10.36             | 2.55 | H   |        | 0.328 | 25.16 |
|               |                                  | 64-QAM     | -20.98                  | 15.56                     | 10.36             | 2.55 | H   |        | 0.218 | 23.37 |
|               |                                  | 256-QAM    | -22.61                  | 13.93                     | 10.36             | 2.55 | H   |        | 0.149 | 21.74 |
| 2592.990      |                                  | PI/2 BPSK  | -19.89                  | 16.57                     | 10.42             | 2.56 | H   |        | 0.277 | 24.43 |
|               |                                  | QPSK       | -19.90                  | 16.56                     | 10.42             | 2.56 | H   |        | 0.277 | 24.42 |
|               |                                  | 16-QAM     | -21.11                  | 15.35                     | 10.42             | 2.56 | H   |        | 0.209 | 23.21 |
|               |                                  | 64-QAM     | -22.82                  | 13.64                     | 10.42             | 2.56 | H   |        | 0.141 | 21.50 |
|               |                                  | 256-QAM    | -24.44                  | 12.02                     | 10.42             | 2.56 | H   |        | 0.097 | 19.88 |
| 2664.990      |                                  | PI/2 BPSK  | -20.13                  | 16.71                     | 10.22             | 2.60 | H   |        | 0.271 | 24.33 |
|               |                                  | QPSK       | -20.17                  | 16.67                     | 10.22             | 2.60 | H   |        | 0.269 | 24.29 |
|               |                                  | 16-QAM     | -21.45                  | 15.39                     | 10.22             | 2.60 | H   |        | 0.200 | 23.01 |
|               |                                  | 64-QAM     | -23.12                  | 13.72                     | 10.22             | 2.60 | H   |        | 0.136 | 21.34 |
|               |                                  | 256-QAM    | -24.63                  | 12.21                     | 10.22             | 2.60 | H   |        | 0.096 | 19.83 |

| Freq<br>(MHz) | Mod/<br>Bandwidth<br>[SCS (kHz)] | Modulation | Measured<br>Level (dBm) | Substitute<br>Level (dBm) | Ant.<br>Gain(dBi) | C.L  | Pol | Limit  | EIRP  |       |
|---------------|----------------------------------|------------|-------------------------|---------------------------|-------------------|------|-----|--------|-------|-------|
|               |                                  |            |                         |                           |                   |      |     | W      | W     | dBm   |
| 2526.000      | Sub6 41/<br>60 MHz<br>[30 kHz]   | PI/2 BPSK  | -18.10                  | 18.26                     | 10.40             | 2.56 | H   | < 2.00 | 0.407 | 26.10 |
|               |                                  | QPSK       | -18.14                  | 18.22                     | 10.40             | 2.56 | H   |        | 0.404 | 26.06 |
|               |                                  | 16-QAM     | -19.33                  | 17.03                     | 10.40             | 2.56 | H   |        | 0.307 | 24.87 |
|               |                                  | 64-QAM     | -21.03                  | 15.33                     | 10.40             | 2.56 | H   |        | 0.208 | 23.17 |
|               |                                  | 256-QAM    | -22.61                  | 13.75                     | 10.40             | 2.56 | H   |        | 0.144 | 21.59 |
| 2592.990      |                                  | PI/2 BPSK  | -19.33                  | 17.13                     | 10.42             | 2.56 | H   |        | 0.316 | 24.99 |
|               |                                  | QPSK       | -19.41                  | 17.05                     | 10.42             | 2.56 | H   |        | 0.310 | 24.91 |
|               |                                  | 16-QAM     | -20.67                  | 15.79                     | 10.42             | 2.56 | H   |        | 0.232 | 23.65 |
|               |                                  | 64-QAM     | -22.29                  | 14.17                     | 10.42             | 2.56 | H   |        | 0.160 | 22.03 |
|               |                                  | 256-QAM    | -23.89                  | 12.57                     | 10.42             | 2.56 | H   |        | 0.110 | 20.43 |
| 2659.980      |                                  | PI/2 BPSK  | -20.17                  | 16.64                     | 10.18             | 2.60 | H   |        | 0.264 | 24.22 |
|               |                                  | QPSK       | -20.23                  | 16.58                     | 10.18             | 2.60 | H   |        | 0.261 | 24.16 |
|               |                                  | 16-QAM     | -21.42                  | 15.39                     | 10.18             | 2.60 | H   |        | 0.198 | 22.97 |
|               |                                  | 64-QAM     | -23.11                  | 13.70                     | 10.18             | 2.60 | H   |        | 0.134 | 21.28 |
|               |                                  | 256-QAM    | -24.76                  | 12.05                     | 10.18             | 2.60 | H   |        | 0.092 | 19.63 |

| Freq<br>(MHz) | Mod/<br>Bandwidth<br>[SCS (kHz)] | Modulation | Measured<br>Level (dBm) | Substitute<br>Level (dBm) | Ant.<br>Gain(dBi) | C.L  | Pol | Limit  | EIRP  |       |
|---------------|----------------------------------|------------|-------------------------|---------------------------|-------------------|------|-----|--------|-------|-------|
|               |                                  |            |                         |                           |                   |      |     | W      | W     | dBm   |
| 2536.020      | Sub6 41/<br>80 MHz<br>[30 kHz]   | PI/2 BPSK  | -18.30                  | 17.97                     | 10.48             | 2.56 | H   | < 2.00 | 0.388 | 25.89 |
|               |                                  | QPSK       | -18.31                  | 17.96                     | 10.48             | 2.56 | H   |        | 0.387 | 25.88 |
|               |                                  | 16-QAM     | -19.70                  | 16.57                     | 10.48             | 2.56 | H   |        | 0.281 | 24.49 |
|               |                                  | 64-QAM     | -21.31                  | 14.96                     | 10.48             | 2.56 | H   |        | 0.194 | 22.88 |
|               |                                  | 256-QAM    | -22.84                  | 13.43                     | 10.48             | 2.56 | H   |        | 0.137 | 21.35 |
| 2592.990      |                                  | PI/2 BPSK  | -19.55                  | 16.91                     | 10.42             | 2.56 | H   |        | 0.300 | 24.77 |
|               |                                  | QPSK       | -19.57                  | 16.89                     | 10.42             | 2.56 | H   |        | 0.299 | 24.75 |
|               |                                  | 16-QAM     | -20.86                  | 15.60                     | 10.42             | 2.56 | H   |        | 0.222 | 23.46 |
|               |                                  | 64-QAM     | -22.51                  | 13.95                     | 10.42             | 2.56 | H   |        | 0.152 | 21.81 |
|               |                                  | 256-QAM    | -24.06                  | 12.40                     | 10.42             | 2.56 | H   |        | 0.106 | 20.26 |
| 2649.990      |                                  | PI/2 BPSK  | -20.21                  | 16.16                     | 10.10             | 2.61 | H   |        | 0.232 | 23.65 |
|               |                                  | QPSK       | -20.23                  | 16.14                     | 10.10             | 2.61 | H   |        | 0.231 | 23.63 |
|               |                                  | 16-QAM     | -21.35                  | 15.02                     | 10.10             | 2.61 | H   |        | 0.178 | 22.51 |
|               |                                  | 64-QAM     | -23.15                  | 13.22                     | 10.10             | 2.61 | H   |        | 0.118 | 20.71 |
|               |                                  | 256-QAM    | -24.70                  | 11.67                     | 10.10             | 2.61 | H   |        | 0.082 | 19.16 |

| Freq<br>(MHz) | Mod/<br>Bandwidth<br>[SCS (kHz)] | Modulation | Measured<br>Level (dBm) | Substitute<br>Level (dBm) | Ant.<br>Gain(dBi) | C.L  | Pol | Limit  | EIRP  |       |
|---------------|----------------------------------|------------|-------------------------|---------------------------|-------------------|------|-----|--------|-------|-------|
|               |                                  |            |                         |                           |                   |      |     | W      | W     | dBm   |
| 2541.000      | Sub6 41/<br>90 MHz<br>[30 kHz]   | PI/2 BPSK  | -18.46                  | 17.91                     | 10.52             | 2.55 | H   | < 2.00 | 0.387 | 25.88 |
|               |                                  | QPSK       | -18.47                  | 17.90                     | 10.52             | 2.55 | H   |        | 0.386 | 25.87 |
|               |                                  | 16-QAM     | -19.81                  | 16.56                     | 10.52             | 2.55 | H   |        | 0.284 | 24.53 |
|               |                                  | 64-QAM     | -21.47                  | 14.90                     | 10.52             | 2.55 | H   |        | 0.194 | 22.87 |
|               |                                  | 256-QAM    | -23.01                  | 13.36                     | 10.52             | 2.55 | H   |        | 0.136 | 21.33 |
| 2592.990      |                                  | PI/2 BPSK  | -19.09                  | 17.37                     | 10.42             | 2.56 | H   |        | 0.333 | 25.23 |
|               |                                  | QPSK       | -19.13                  | 17.33                     | 10.42             | 2.56 | H   |        | 0.330 | 25.19 |
|               |                                  | 16-QAM     | -20.35                  | 16.11                     | 10.42             | 2.56 | H   |        | 0.250 | 23.97 |
|               |                                  | 64-QAM     | -22.03                  | 14.43                     | 10.42             | 2.56 | H   |        | 0.169 | 22.29 |
|               |                                  | 256-QAM    | -23.61                  | 12.85                     | 10.42             | 2.56 | H   |        | 0.118 | 20.71 |
| 2644.980      |                                  | PI/2 BPSK  | -20.26                  | 16.37                     | 10.13             | 2.62 | H   |        | 0.244 | 23.88 |
|               |                                  | QPSK       | -20.30                  | 16.33                     | 10.13             | 2.62 | H   |        | 0.242 | 23.84 |
|               |                                  | 16-QAM     | -21.39                  | 15.24                     | 10.13             | 2.62 | H   |        | 0.188 | 22.75 |
|               |                                  | 64-QAM     | -23.16                  | 13.47                     | 10.13             | 2.62 | H   |        | 0.125 | 20.98 |
|               |                                  | 256-QAM    | -24.77                  | 11.86                     | 10.13             | 2.62 | H   |        | 0.086 | 19.37 |

| Freq<br>(MHz) | Mod/<br>Bandwidth<br>[SCS (kHz)] | Modulation | Measured<br>Level (dBm) | Substitute<br>Level (dBm) | Ant.<br>Gain(dBi) | C.L  | Pol | Limit  | EIRP  |       |
|---------------|----------------------------------|------------|-------------------------|---------------------------|-------------------|------|-----|--------|-------|-------|
|               |                                  |            |                         |                           |                   |      |     | W      | W     | dBm   |
| 2546.010      | Sub6 41/<br>100 MHz<br>[30 kHz]  | PI/2 BPSK  | -18.30                  | 18.08                     | 10.56             | 2.56 | H   | < 2.00 | 0.406 | 26.08 |
|               |                                  | QPSK       | -18.33                  | 18.05                     | 10.56             | 2.56 | H   |        | 0.403 | 26.05 |
|               |                                  | 16-QAM     | -19.59                  | 16.79                     | 10.56             | 2.56 | H   |        | 0.301 | 24.79 |
|               |                                  | 64-QAM     | -21.25                  | 15.13                     | 10.56             | 2.56 | H   |        | 0.206 | 23.13 |
|               |                                  | 256-QAM    | -22.85                  | 13.53                     | 10.56             | 2.56 | H   |        | 0.142 | 21.53 |
| 2592.990      |                                  | PI/2 BPSK  | -18.95                  | 17.51                     | 10.42             | 2.56 | H   |        | 0.344 | 25.37 |
|               |                                  | QPSK       | -18.97                  | 17.49                     | 10.42             | 2.56 | H   |        | 0.343 | 25.35 |
|               |                                  | 16-QAM     | -20.18                  | 16.28                     | 10.42             | 2.56 | H   |        | 0.259 | 24.14 |
|               |                                  | 64-QAM     | -21.88                  | 14.58                     | 10.42             | 2.56 | H   |        | 0.175 | 22.44 |
|               |                                  | 256-QAM    | -23.47                  | 12.99                     | 10.42             | 2.56 | H   |        | 0.122 | 20.85 |
| 2640.000      |                                  | PI/2 BPSK  | -20.47                  | 16.42                     | 10.16             | 2.63 | H   |        | 0.248 | 23.95 |
|               |                                  | QPSK       | -20.49                  | 16.40                     | 10.16             | 2.63 | H   |        | 0.247 | 23.93 |
|               |                                  | 16-QAM     | -21.81                  | 15.08                     | 10.16             | 2.63 | H   |        | 0.182 | 22.61 |
|               |                                  | 64-QAM     | -23.46                  | 13.43                     | 10.16             | 2.63 | H   |        | 0.125 | 20.96 |
|               |                                  | 256-QAM    | -25.07                  | 11.82                     | 10.16             | 2.63 | H   |        | 0.086 | 19.35 |

## 8.2 RADIATED SPURIOUS EMISSIONS

- NR Band: N41
- Bandwidth: 20 MHz
- Modulation: PI/2 BPSK
- Distance: 1 meters
- SCS: 30 kHz

| Ch                   | Freq (MHz) | Measured Level (dBm) | Ant. Gain (dBi) | Substitute Level (dBm) | C.L  | Pol | Result (dBm) | Limit (dBm) |
|----------------------|------------|----------------------|-----------------|------------------------|------|-----|--------------|-------------|
| 501204<br>(2506.020) | 5 012.04   | -59.08               | 10.92           | -58.52                 | 3.77 | V   | -51.37       | -25.00      |
|                      | 7 518.06   | -57.01               | 11.54           | -47.65                 | 4.51 | V   | -40.62       | -25.00      |
|                      | 10 024.08  | -60.79               | 11.75           | -50.00                 | 5.30 | V   | -43.55       | -25.00      |
|                      | 12 530.10  | -61.04               | 12.94           | -49.39                 | 6.10 | H   | -42.55       | -25.00      |
|                      | 15 036.12  | -55.87               | 14.54           | -46.97                 | 6.72 | H   | -39.15       | -25.00      |
| 518598<br>(2592.990) | 5 185.98   | -58.24               | 11.47           | -57.89                 | 3.90 | V   | -50.31       | -25.00      |
|                      | 7 778.97   | -56.29               | 11.28           | -46.87                 | 4.66 | V   | -40.25       | -25.00      |
|                      | 10 371.96  | -63.57               | 11.80           | -50.87                 | 5.41 | V   | -44.48       | -25.00      |
|                      | 12 964.95  | -61.24               | 12.70           | -48.96                 | 6.26 | H   | -42.52       | -25.00      |
|                      | 15 557.94  | -59.99               | 16.22           | -51.56                 | 6.86 | V   | -42.20       | -25.00      |
| 535998<br>(2679.990) | 5 359.98   | -55.97               | 11.82           | -56.22                 | 3.84 | V   | -48.24       | -25.00      |
|                      | 8 039.97   | -57.71               | 11.28           | -48.47                 | 4.71 | H   | -41.90       | -25.00      |
|                      | 10 719.96  | -63.25               | 11.70           | -49.25                 | 5.48 | V   | -43.03       | -25.00      |
|                      | 13 399.95  | -61.74               | 12.50           | -48.30                 | 6.33 | V   | -42.13       | -25.00      |
|                      | 16 079.94  | -60.68               | 16.50           | -49.23                 | 7.00 | V   | -39.73       | -25.00      |

☐ NR Band: N41  
☐ Bandwidth: 30 MHz  
☐ Modulation: PI/2 BPSK  
☐ Distance: 1 meters  
☐ SCS: 30 kHz

| Ch                   | Freq (MHz) | Measured Level (dBm) | Ant. Gain (dBi) | Substitute Level (dBm) | C.L  | Pol | Result (dBm) | Limit (dBm) |
|----------------------|------------|----------------------|-----------------|------------------------|------|-----|--------------|-------------|
| 502200<br>(2511.000) | 5 022.00   | -60.73               | 10.94           | -60.57                 | 3.72 | V   | -53.35       | -25.00      |
|                      | 7 533.00   | -55.54               | 11.56           | -46.69                 | 4.56 | V   | -39.68       | -25.00      |
|                      | 10 044.00  | -60.92               | 11.71           | -49.92                 | 5.29 | V   | -43.50       | -25.00      |
|                      | 12 555.00  | -61.22               | 12.90           | -49.30                 | 6.17 | V   | -42.57       | -25.00      |
|                      | 15 066.00  | -58.34               | 14.66           | -50.52                 | 6.76 | V   | -42.62       | -25.00      |
| 518598<br>(2592.990) | 5 185.98   | -58.39               | 11.47           | -58.04                 | 3.90 | H   | -50.46       | -25.00      |
|                      | 7 778.97   | -57.92               | 11.28           | -48.50                 | 4.66 | V   | -41.88       | -25.00      |
|                      | 10 371.96  | -63.23               | 11.80           | -50.53                 | 5.41 | V   | -44.14       | -25.00      |
|                      | 12 964.95  | -61.63               | 12.70           | -49.35                 | 6.26 | H   | -42.91       | -25.00      |
|                      | 15 557.94  | -60.43               | 16.22           | -52.00                 | 6.86 | V   | -42.64       | -25.00      |
| 534996<br>(2674.980) | 5 349.96   | -57.33               | 11.80           | -57.32                 | 3.79 | H   | -49.31       | -25.00      |
|                      | 8 024.94   | -58.68               | 11.25           | -49.11                 | 4.69 | V   | -42.55       | -25.00      |
|                      | 10 699.92  | -63.02               | 11.70           | -49.41                 | 5.51 | V   | -43.22       | -25.00      |
|                      | 13 374.90  | -62.21               | 12.60           | -49.61                 | 6.29 | V   | -43.30       | -25.00      |
|                      | 16 049.88  | -63.31               | 16.50           | -51.74                 | 6.99 | V   | -42.23       | -25.00      |

☐ NR Band: N41  
☐ Bandwidth: 40 MHz  
☐ Modulation: PI/2 BPSK  
☐ Distance: 1 meters  
☐ SCS: 30 kHz

| Ch                   | Freq (MHz) | Measured Level (dBm) | Ant. Gain (dBi) | Substitute Level (dBm) | C.L  | Pol | Result (dBm) | Limit (dBm) |
|----------------------|------------|----------------------|-----------------|------------------------|------|-----|--------------|-------------|
| 503202<br>(2516.010) | 5 032.02   | -60.04               | 10.96           | -60.33                 | 3.66 | V   | -53.03       | -25.00      |
|                      | 7 548.03   | -55.88               | 11.58           | -46.78                 | 4.63 | V   | -39.83       | -25.00      |
|                      | 10 064.04  | -60.88               | 11.67           | -50.03                 | 5.31 | V   | -43.67       | -25.00      |
|                      | 12 580.05  | -61.53               | 12.90           | -50.34                 | 6.12 | V   | -43.56       | -25.00      |
|                      | 15 096.06  | -58.00               | 14.78           | -49.01                 | 6.81 | V   | -41.04       | -25.00      |
| 518598<br>(2592.990) | 5 185.98   | -58.48               | 11.47           | -58.13                 | 3.90 | V   | -50.55       | -25.00      |
|                      | 7 778.97   | -60.01               | 11.28           | -50.59                 | 4.66 | H   | -43.97       | -25.00      |
|                      | 10 371.96  | -63.07               | 11.80           | -50.37                 | 5.41 | V   | -43.98       | -25.00      |
|                      | 12 964.95  | -61.67               | 12.70           | -49.39                 | 6.26 | V   | -42.95       | -25.00      |
|                      | 15 557.94  | -61.15               | 16.22           | -52.72                 | 6.86 | V   | -43.36       | -25.00      |
| 534000<br>(2670.000) | 5 340.00   | -57.29               | 11.78           | -57.78                 | 3.78 | V   | -49.78       | -25.00      |
|                      | 8 010.00   | -57.30               | 11.22           | -47.54                 | 4.66 | H   | -40.98       | -25.00      |
|                      | 10 680.00  | -62.44               | 11.70           | -48.18                 | 5.56 | V   | -42.04       | -25.00      |
|                      | 13 350.00  | -62.66               | 12.70           | -49.31                 | 6.30 | V   | -42.91       | -25.00      |
|                      | 16 020.00  | -61.49               | 16.50           | -51.08                 | 6.96 | V   | -41.54       | -25.00      |

☐ NR Band: N41  
☐ Bandwidth: 50 MHz  
☐ Modulation: PI/2 BPSK  
☐ Distance: 1 meters  
☐ SCS: 30 kHz

| Ch                   | Freq (MHz) | Measured Level (dBm) | Ant. Gain (dBi) | Substitute Level (dBm) | C.L  | Pol | Result (dBm) | Limit (dBm) |
|----------------------|------------|----------------------|-----------------|------------------------|------|-----|--------------|-------------|
| 504204<br>(2521.020) | 5 042.04   | -60.21               | 10.98           | -60.97                 | 3.65 | V   | -53.64       | -25.00      |
|                      | 7 563.06   | -55.63               | 11.60           | -46.43                 | 4.65 | V   | -39.47       | -25.00      |
|                      | 10 084.08  | -61.68               | 11.63           | -50.64                 | 5.35 | V   | -44.35       | -25.00      |
|                      | 12 605.10  | -61.31               | 12.90           | -49.56                 | 6.08 | V   | -42.74       | -25.00      |
|                      | 15 126.12  | -58.24               | 14.85           | -50.16                 | 6.75 | V   | -42.06       | -25.00      |
| 518598<br>(2592.990) | 5 185.98   | -57.36               | 11.47           | -57.01                 | 3.90 | V   | -49.43       | -25.00      |
|                      | 7 778.97   | -57.74               | 11.28           | -48.32                 | 4.66 | V   | -41.70       | -25.00      |
|                      | 10 371.96  | -62.40               | 11.80           | -49.70                 | 5.41 | V   | -43.31       | -25.00      |
|                      | 12 964.95  | -62.27               | 12.70           | -49.99                 | 6.26 | V   | -43.55       | -25.00      |
|                      | 15 557.94  | -62.03               | 16.22           | -53.60                 | 6.86 | V   | -44.24       | -25.00      |
| 532998<br>(2664.990) | 5 329.98   | -58.30               | 11.76           | -58.69                 | 3.76 | V   | -50.69       | -25.00      |
|                      | 7 994.97   | -58.82               | 11.19           | -49.22                 | 4.64 | H   | -42.66       | -25.00      |
|                      | 10 659.96  | -63.80               | 11.70           | -49.27                 | 5.51 | V   | -43.08       | -25.00      |
|                      | 13 324.95  | -61.75               | 12.75           | -48.10                 | 6.39 | V   | -41.73       | -25.00      |
|                      | 15 989.94  | -63.37               | 16.50           | -52.53                 | 6.96 | V   | -42.99       | -25.00      |

☐ NR Band: N41  
☐ Bandwidth: 60 MHz  
☐ Modulation: PI/2 BPSK  
☐ Distance: 1 meters  
☐ SCS: 30 kHz

| Ch                   | Freq (MHz) | Measured Level (dBm) | Ant. Gain (dBi) | Substitute Level (dBm) | C.L  | Pol | Result (dBm) | Limit (dBm) |
|----------------------|------------|----------------------|-----------------|------------------------|------|-----|--------------|-------------|
| 505200<br>(2526.000) | 5 052.00   | -59.05               | 11.00           | -59.48                 | 3.66 | H   | -52.14       | -25.00      |
|                      | 7 578.00   | -54.60               | 11.60           | -45.75                 | 4.60 | V   | -38.75       | -25.00      |
|                      | 10 104.00  | -61.79               | 11.60           | -50.70                 | 5.34 | V   | -44.43       | -25.00      |
|                      | 12 630.00  | -61.39               | 12.90           | -50.28                 | 6.19 | V   | -43.57       | -25.00      |
|                      | 15 156.00  | -57.73               | 14.91           | -48.86                 | 6.76 | V   | -40.70       | -25.00      |
| 518598<br>(2592.990) | 5 185.98   | -56.65               | 11.47           | -56.30                 | 3.90 | V   | -48.72       | -25.00      |
|                      | 7 778.97   | -59.66               | 11.28           | -50.24                 | 4.66 | H   | -43.62       | -25.00      |
|                      | 10 371.96  | -60.22               | 11.80           | -47.52                 | 5.41 | H   | -41.13       | -25.00      |
|                      | 12 964.95  | -63.14               | 12.70           | -50.86                 | 6.26 | V   | -44.42       | -25.00      |
|                      | 15 557.94  | -55.65               | 16.22           | -47.22                 | 6.86 | V   | -37.86       | -25.00      |
| 531996<br>(2659.980) | 5 319.96   | -57.46               | 11.74           | -58.18                 | 3.80 | V   | -50.24       | -25.00      |
|                      | 7 979.94   | -58.44               | 11.16           | -49.06                 | 4.66 | V   | -42.56       | -25.00      |
|                      | 10 639.92  | -61.56               | 11.70           | -47.71                 | 5.44 | V   | -41.45       | -25.00      |
|                      | 13 299.90  | -60.74               | 12.80           | -47.66                 | 6.31 | V   | -41.17       | -25.00      |
|                      | 15 959.88  | -56.37               | 16.50           | -46.30                 | 6.97 | V   | -36.77       | -25.00      |

☐ NR Band: N41  
☐ Bandwidth: 80 MHz  
☐ Modulation: PI/2 BPSK  
☐ Distance: 1 meters  
☐ SCS: 30 kHz

| Ch                   | Freq (MHz) | Measured Level (dBm) | Ant. Gain (dBi) | Substitute Level (dBm) | C.L  | Pol | Result (dBm) | Limit (dBm) |
|----------------------|------------|----------------------|-----------------|------------------------|------|-----|--------------|-------------|
| 507204<br>(2536.020) | 5 072.04   | -60.34               | 11.08           | -59.95                 | 3.73 | V   | -52.60       | -25.00      |
|                      | 7 608.06   | -57.49               | 11.60           | -48.35                 | 4.54 | V   | -41.29       | -25.00      |
|                      | 10 144.08  | -61.08               | 11.60           | -49.54                 | 5.33 | V   | -43.26       | -25.00      |
|                      | 12 680.10  | -62.70               | 12.78           | -50.35                 | 6.16 | V   | -43.73       | -25.00      |
|                      | 15 216.12  | -58.99               | 15.03           | -50.13                 | 6.78 | V   | -41.88       | -25.00      |
| 518598<br>(2592.990) | 5 185.98   | -60.06               | 11.47           | -59.71                 | 3.90 | V   | -52.13       | -25.00      |
|                      | 7 778.97   | -63.37               | 11.28           | -53.95                 | 4.66 | V   | -47.33       | -25.00      |
|                      | 10 371.96  | -62.76               | 11.80           | -50.06                 | 5.41 | V   | -43.67       | -25.00      |
|                      | 12 964.95  | -61.38               | 12.70           | -49.10                 | 6.26 | V   | -42.66       | -25.00      |
|                      | 15 557.94  | -56.30               | 16.22           | -47.87                 | 6.86 | V   | -38.51       | -25.00      |
| 529998<br>(2649.990) | 5 299.98   | -58.45               | 11.70           | -58.61                 | 3.91 | V   | -50.82       | -25.00      |
|                      | 7 949.97   | -57.01               | 11.10           | -47.10                 | 4.74 | H   | -40.74       | -25.00      |
|                      | 10 599.96  | -62.94               | 11.70           | -49.58                 | 5.53 | V   | -43.41       | -25.00      |
|                      | 13 249.95  | -61.66               | 12.90           | -49.51                 | 6.31 | V   | -42.92       | -25.00      |
|                      | 15 899.94  | -62.74               | 16.40           | -52.24                 | 6.95 | V   | -42.79       | -25.00      |

☐ NR Band: N41  
☐ Bandwidth: 90 MHz  
☐ Modulation: PI/2 BPSK  
☐ Distance: 1 meters  
☐ SCS: 30 kHz

| Ch                   | Freq (MHz) | Measured Level (dBm) | Ant. Gain (dBi) | Substitute Level (dBm) | C.L  | Pol | Result (dBm) | Limit (dBm) |
|----------------------|------------|----------------------|-----------------|------------------------|------|-----|--------------|-------------|
| 508200<br>(2541.000) | 5 082.00   | -60.34               | 11.12           | -60.04                 | 3.74 | V   | -52.66       | -25.00      |
|                      | 7 623.00   | -57.75               | 11.60           | -48.30                 | 4.55 | V   | -41.25       | -25.00      |
|                      | 10 164.00  | -59.87               | 11.60           | -48.13                 | 5.35 | V   | -41.87       | -25.00      |
|                      | 12 705.00  | -62.33               | 12.69           | -49.07                 | 6.17 | V   | -42.55       | -25.00      |
|                      | 15 246.00  | -57.94               | 15.09           | -49.61                 | 6.76 | V   | -41.28       | -25.00      |
| 518598<br>(2592.990) | 5 185.98   | -59.83               | 11.47           | -59.48                 | 3.90 | V   | -51.90       | -25.00      |
|                      | 7 778.97   | -60.49               | 11.28           | -51.07                 | 4.66 | H   | -44.45       | -25.00      |
|                      | 10 371.96  | -62.29               | 11.80           | -49.59                 | 5.41 | V   | -43.20       | -25.00      |
|                      | 12 964.95  | -63.07               | 12.70           | -50.79                 | 6.26 | V   | -44.35       | -25.00      |
|                      | 15 557.94  | -56.61               | 16.22           | -48.18                 | 6.86 | V   | -38.82       | -25.00      |
| 528996<br>(2644.980) | 5 289.96   | -59.10               | 11.68           | -59.25                 | 3.90 | V   | -51.47       | -25.00      |
|                      | 7 934.94   | -57.77               | 11.07           | -48.56                 | 4.69 | H   | -42.18       | -25.00      |
|                      | 10 579.92  | -60.90               | 11.70           | -48.10                 | 5.51 | V   | -41.91       | -25.00      |
|                      | 13 224.90  | -61.23               | 12.90           | -48.01                 | 6.32 | V   | -41.43       | -25.00      |
|                      | 15 869.88  | -62.72               | 16.40           | -53.42                 | 6.95 | V   | -43.97       | -25.00      |

- NR Band: N41
- Bandwidth: 100 MHz
- Modulation: PI/2 BPSK
- Distance: 1 meters
- SCS: 30 kHz

| Ch                   | Freq (MHz) | Measured Level (dBm) | Ant. Gain (dBi) | Substitute Level (dBm) | C.L  | Pol | Result (dBm) | Limit (dBm) |
|----------------------|------------|----------------------|-----------------|------------------------|------|-----|--------------|-------------|
| 509202<br>(2546.010) | 5 092.02   | -59.56               | 11.16           | -59.65                 | 3.79 | V   | -52.28       | -25.00      |
|                      | 7 638.03   | -56.68               | 11.60           | -47.85                 | 4.58 | V   | -40.83       | -25.00      |
|                      | 10 184.04  | -62.52               | 11.60           | -50.99                 | 5.38 | V   | -44.76       | -25.00      |
|                      | 12 730.05  | -61.51               | 12.64           | -48.48                 | 6.20 | H   | -42.04       | -25.00      |
|                      | 15 276.06  | -56.79               | 15.20           | -48.19                 | 6.80 | V   | -39.79       | -25.00      |
| 518598<br>(2592.990) | 5 185.98   | -60.11               | 11.47           | -59.76                 | 3.90 | H   | -52.18       | -25.00      |
|                      | 7 778.97   | -60.00               | 11.28           | -50.58                 | 4.66 | V   | -43.96       | -25.00      |
|                      | 10 371.96  | -62.56               | 11.80           | -49.86                 | 5.41 | V   | -43.47       | -25.00      |
|                      | 12 964.95  | -61.62               | 12.70           | -49.34                 | 6.26 | H   | -42.90       | -25.00      |
|                      | 15 557.94  | -60.87               | 16.22           | -52.44                 | 6.86 | V   | -43.08       | -25.00      |
| 528000<br>(2640.000) | 5 280.00   | -57.96               | 11.66           | -58.66                 | 3.84 | H   | -50.84       | -25.00      |
|                      | 7 920.00   | -59.48               | 11.04           | -49.94                 | 4.64 | V   | -43.54       | -25.00      |
|                      | 10 560.00  | -62.00               | 11.70           | -48.87                 | 5.47 | V   | -42.64       | -25.00      |
|                      | 13 200.00  | -61.62               | 12.90           | -49.42                 | 6.27 | V   | -42.79       | -25.00      |
|                      | 15 840.00  | -56.66               | 16.40           | -46.55                 | 6.90 | V   | -37.05       | -25.00      |

■ ENDC-Mode : 2A(10 MHz)-n41A(60 MHz), PC3

| Band | Ch                | Freq (MHz) | Measured Level (dBm) | Ant. Gain (dBi) | Substitute Level (dBm) | C.L  | Pol | Result (dBm) | Limit (dBm) |
|------|-------------------|------------|----------------------|-----------------|------------------------|------|-----|--------------|-------------|
| 2    | 18900<br>(1880.0) | 3760.00    | -60.21               | 11.64           | -60.44                 | 3.16 | V   | -51.96       | -13.00      |
|      |                   | 5640.00    | -61.22               | 12.00           | -55.04                 | 3.93 | V   | -46.97       | -13.00      |
|      |                   | 7520.00    | -59.42               | 11.54           | -44.97                 | 4.51 | V   | -37.94       | -13.00      |

### 8.3 PEAK-TO-AVERAGE RATIO

| Band     | Band Width | Frequency (MHz) | Modulation | Resource Block Size | Resource Block Offset | Data ( dB ) |
|----------|------------|-----------------|------------|---------------------|-----------------------|-------------|
| Sub6 n41 | 20 MHz     | 2592.990        | BPSK       | 50                  | 0                     | 4.27        |
|          |            |                 | QPSK       |                     |                       | 5.08        |
|          |            |                 | 16-QAM     |                     |                       | 6.04        |
|          |            |                 | 64-QAM     |                     |                       | 6.44        |
|          |            |                 | 256-QAM    |                     |                       | 7.00        |
|          | 30 MHz     |                 | BPSK       | 75                  |                       | 4.21        |
|          |            |                 | QPSK       |                     |                       | 4.88        |
|          |            |                 | 16-QAM     |                     |                       | 5.90        |
|          |            |                 | 64-QAM     |                     |                       | 6.28        |
|          |            |                 | 256-QAM    |                     |                       | 6.88        |
|          | 40 MHz     |                 | BPSK       | 100                 |                       | 4.17        |
|          |            |                 | QPSK       |                     |                       | 4.94        |
|          |            |                 | 16-QAM     |                     |                       | 5.94        |
|          |            |                 | 64-QAM     |                     |                       | 6.37        |
|          |            |                 | 256-QAM    |                     |                       | 6.84        |
|          | 50 MHz     |                 | BPSK       | 128                 |                       | 4.58        |
|          |            |                 | QPSK       |                     |                       | 5.15        |
|          |            |                 | 16-QAM     |                     |                       | 5.81        |
|          |            |                 | 64-QAM     |                     |                       | 6.31        |
|          |            |                 | 256-QAM    |                     |                       | 6.91        |
|          | 60 MHz     |                 | BPSK       | 162                 |                       | 4.35        |
|          |            |                 | QPSK       |                     |                       | 5.16        |
|          |            |                 | 16-QAM     |                     |                       | 6.05        |
|          |            |                 | 64-QAM     |                     |                       | 6.45        |
|          |            |                 | 256-QAM    |                     |                       | 6.80        |
|          | 80 MHz     |                 | BPSK       | 216                 |                       | 4.53        |
|          |            |                 | QPSK       |                     |                       | 5.06        |
|          |            |                 | 16-QAM     |                     |                       | 6.06        |
|          |            |                 | 64-QAM     |                     |                       | 6.37        |
|          |            |                 | 256-QAM    |                     |                       | 6.78        |
| 90 MHz   | BPSK       | 243             | 4.29       |                     |                       |             |
|          | QPSK       |                 | 5.03       |                     |                       |             |
|          | 16-QAM     |                 | 6.00       |                     |                       |             |
|          | 64-QAM     |                 | 6.42       |                     |                       |             |
|          | 256-QAM    |                 | 6.93       |                     |                       |             |
| 100 MHz  | BPSK       | 270             | 4.36       |                     |                       |             |
|          | QPSK       |                 | 4.86       |                     |                       |             |
|          | 16-QAM     |                 | 5.89       |                     |                       |             |
|          | 64-QAM     |                 | 6.27       |                     |                       |             |
|          | 256-QAM    |                 | 6.90       |                     |                       |             |

**Note:**

1. Plots of the EUT's Peak- to- Average Ratio are shown Page 99 ~ 138.

#### 8.4 OCCUPIED BANDWIDTH

| Band     | Band Width | Frequency (MHz) | Modulation | Resource Block Size | Resource Block Offset | Data ( MHz ) |
|----------|------------|-----------------|------------|---------------------|-----------------------|--------------|
| Sub6 n41 | 20 MHz     | 2592.990        | BPSK       | 50                  | 0                     | 17.989       |
|          |            |                 | QPSK       |                     |                       | 18.015       |
|          |            |                 | 16-QAM     |                     |                       | 17.965       |
|          |            |                 | 64-QAM     |                     |                       | 18.010       |
|          |            |                 | 256-QAM    |                     |                       | 17.994       |
|          | 30 MHz     |                 | BPSK       | 75                  |                       | 26.989       |
|          |            |                 | QPSK       |                     |                       | 26.974       |
|          |            |                 | 16-QAM     |                     |                       | 26.953       |
|          |            |                 | 64-QAM     |                     |                       | 27.002       |
|          |            |                 | 256-QAM    |                     |                       | 26.998       |
|          | 40 MHz     |                 | BPSK       | 100                 |                       | 35.921       |
|          |            |                 | QPSK       |                     |                       | 35.842       |
|          |            |                 | 16-QAM     |                     |                       | 35.971       |
|          |            |                 | 64-QAM     |                     |                       | 35.951       |
|          |            |                 | 256-QAM    |                     |                       | 35.961       |
|          | 50 MHz     |                 | BPSK       | 128                 |                       | 45.982       |
|          |            |                 | QPSK       |                     |                       | 45.887       |
|          |            |                 | 16-QAM     |                     |                       | 45.834       |
|          |            |                 | 64-QAM     |                     |                       | 45.929       |
|          |            |                 | 256-QAM    |                     |                       | 45.975       |
|          | 60 MHz     |                 | BPSK       | 162                 |                       | 58.058       |
|          |            |                 | QPSK       |                     |                       | 57.984       |
|          |            |                 | 16-QAM     |                     |                       | 58.169       |
|          |            |                 | 64-QAM     |                     |                       | 58.170       |
|          |            |                 | 256-QAM    |                     |                       | 58.151       |
|          | 80 MHz     |                 | BPSK       | 216                 |                       | 77.508       |
|          |            |                 | QPSK       |                     |                       | 77.488       |
|          |            |                 | 16-QAM     |                     |                       | 77.404       |
|          |            |                 | 64-QAM     |                     |                       | 77.307       |
|          |            |                 | 256-QAM    |                     |                       | 77.477       |
| 90 MHz   | BPSK       | 243             | 87.065     |                     |                       |              |
|          | QPSK       |                 | 87.138     |                     |                       |              |
|          | 16-QAM     |                 | 86.973     |                     |                       |              |
|          | 64-QAM     |                 | 87.059     |                     |                       |              |
|          | 256-QAM    |                 | 87.017     |                     |                       |              |
| 100 MHz  | BPSK       | 270             | 96.856     |                     |                       |              |
|          | QPSK       |                 | 96.611     |                     |                       |              |
|          | 16-QAM     |                 | 96.612     |                     |                       |              |
|          | 64-QAM     |                 | 96.761     |                     |                       |              |
|          | 256-QAM    |                 | 96.942     |                     |                       |              |

**Note:**

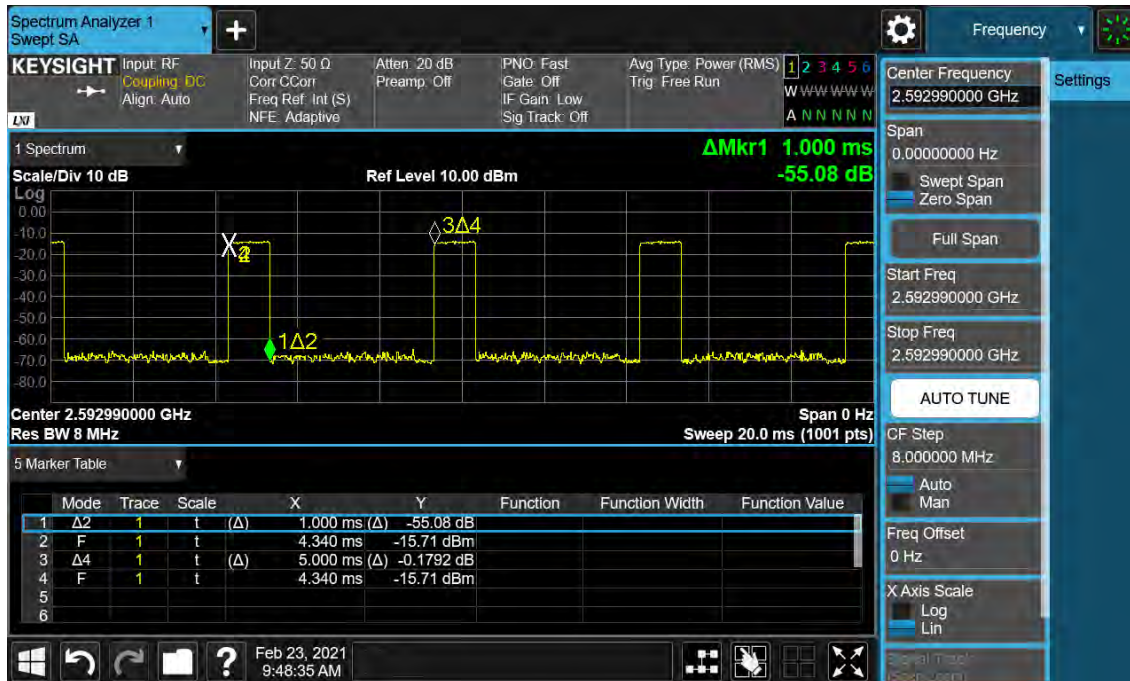
1. Plots of the EUT's Occupied Bandwidth are shown Page 59 ~ 98.

## 8.5 CONDUCTED SPURIOUS EMISSIONS

| Band     | Band Width (MHz) | Frequency (MHz) | Frequency of Maximum Harmonic (GHz) | Factor (dB) | Measurement Maximum Data (dBm) | Result (dBm) | Limit (dBm) |
|----------|------------------|-----------------|-------------------------------------|-------------|--------------------------------|--------------|-------------|
| Sub6 n41 | 20               | 2506.020        | 8.0244                              | 37.805      | -70.752                        | -32.947      | -25.00      |
|          |                  | 2592.990        | 8.3260                              | 37.805      | -70.465                        | -32.660      |             |
|          |                  | 2679.990        | 8.2538                              | 37.805      | -70.482                        | -32.677      |             |
|          | 30               | 2511.000        | 5.2159                              | 37.805      | -70.851                        | -33.046      |             |
|          |                  | 2592.990        | 8.2508                              | 37.805      | -69.949                        | -32.144      |             |
|          |                  | 2674.980        | 9.1356                              | 37.805      | -70.715                        | -32.910      |             |
|          | 40               | 2516.010        | 4.0698                              | 37.190      | -70.300                        | -33.110      |             |
|          |                  | 2592.990        | 5.2224                              | 37.805      | -70.963                        | -33.158      |             |
|          |                  | 2670.000        | 4.9985                              | 37.190      | -70.192                        | -33.002      |             |
|          | 50               | 2521.020        | 6.0100                              | 37.805      | -70.715                        | -32.910      |             |
|          |                  | 2592.990        | 6.0215                              | 37.805      | -70.395                        | -32.590      |             |
|          |                  | 2664.990        | 9.6924                              | 37.805      | -70.037                        | -32.232      |             |
|          | 60               | 2526.000        | 4.9133                              | 37.190      | -70.727                        | -33.537      |             |
|          |                  | 2592.990        | 5.4706                              | 37.805      | -70.718                        | -32.913      |             |
|          |                  | 2659.980        | 4.0639                              | 37.190      | -70.451                        | -33.261      |             |
|          | 80               | 2536.020        | 5.2119                              | 37.805      | -69.272                        | -31.467      |             |
|          |                  | 2592.990        | 8.2498                              | 37.805      | -69.887                        | -32.082      |             |
|          |                  | 2649.990        | 8.2478                              | 37.805      | -70.290                        | -32.485      |             |
|          | 90               | 2541.000        | 6.0080                              | 37.805      | -70.256                        | -32.451      |             |
|          |                  | 2592.990        | 9.1052                              | 37.805      | -69.667                        | -31.862      |             |
|          |                  | 2644.980        | 9.9676                              | 37.805      | -69.842                        | -32.037      |             |
|          | 100              | 2546.010        | 8.8584                              | 37.805      | -70.517                        | -32.712      |             |
|          |                  | 2592.990        | 4.9228                              | 37.190      | -70.215                        | -33.025      |             |
|          |                  | 2640.000        | 4.0414                              | 37.190      | -70.518                        | -33.328      |             |

Note:

1. Plots of the EUT's Conducted Spurious Emissions are shown Page 195 ~ 242.
2. Duty Cycle factor already applied on the factor.
  - Duty Cycle Factor(dB) = 6.990



- Factor(dB) = Duty Cycle factor + Cable Loss + Ext. Attenuator
- Result(dBm) = Reading + Factor

3. Factor(dB)

| Frequency Range (GHz) | Factor [dB] |
|-----------------------|-------------|
| 0.03 – 1              | 34.484      |
| 1 – 5                 | 37.190      |
| 5 – 10                | 37.805      |
| 10 – 15               | 38.330      |
| 15 – 20               | 38.703      |
| Above 20              | 39.345      |

## 8.6 CHANNEL EDGE

| BW<br>(MHz) | Frequency<br>(MHz) | Mod  | RB<br>(Size/<br>Offset) | 2 495 MHz<br>~ 2 496<br>MHz | C.E<br>~ (C.E<br>+1MHz) | 2 490.5<br>MHz<br>~ 2 495<br>MHz | (C.E + 1<br>MHz)<br>~<br>(C.E + 5<br>MHz) | Below<br>2 490.5<br>MHz | (C.E + 5<br>MHz)<br>~<br>(C.E + X<br>MHz) | Above<br>(C.E + X<br>MHz) |
|-------------|--------------------|------|-------------------------|-----------------------------|-------------------------|----------------------------------|-------------------------------------------|-------------------------|-------------------------------------------|---------------------------|
|             |                    |      |                         | Lower                       | Upper                   | Lower                            | Upper                                     | Lower                   | Upper                                     | Upper                     |
| 20          | 2506.020           | BPSK | Full RB                 | -23.29                      | -27.88                  | -27.77                           | -27.88                                    | -28.24                  | -26.65                                    | -31.21                    |
| 30          | 2511.000           | BPSK | Full RB                 | -25.19                      | -30.16                  | -29.43                           | -28.95                                    | -30.50                  | -28.65                                    | -36.36                    |
| 40          | 2520.000           | BPSK | Full RB                 | -24.48                      | -31.90                  | -31.38                           | -30.63                                    | -29.73                  | -29.20                                    | -37.09                    |
| 50          | 2525.010           | BPSK | Full RB                 | -25.81                      | -29.23                  | -30.68                           | -26.46                                    | -26.16                  | -26.19                                    | -32.12                    |
| 60          | 2530.020           | BPSK | Full RB                 | -17.69                      | -17.26                  | -32.87                           | -31.42                                    | -32.34                  | -27.61                                    | -37.59                    |
| 80          | 2540.010           | BPSK | Full RB                 | -24.08                      | -26.19                  | -30.34                           | -29.75                                    | -31.76                  | -29.95                                    | -36.40                    |
| 90          | 2545.020           | BPSK | Full RB                 | -22.03                      | -33.04                  | -34.54                           | -34.56                                    | -34.63                  | -28.62                                    | -38.59                    |
| 100         | 2550.000           | BPSK | Full RB                 | -21.13                      | -31.33                  | -31.53                           | -31.16                                    | -31.24                  | -29.82                                    | -35.05                    |
| Limit       |                    |      |                         | -13.0                       | -10.0                   | -13.0                            | -10.0                                     | -25.0                   | -13.0                                     | -25.0                     |

| Band Width | Frequency (MHz) | Modulation | Resource Block Size | Resource Block Offset | C.E ~ (C.E ± 1 MHz) |        | (C.E ± 1 MHz)<br>~<br>(C.E ± 5 MHz) |        |
|------------|-----------------|------------|---------------------|-----------------------|---------------------|--------|-------------------------------------|--------|
|            |                 |            |                     |                       | Lower               | Upper  | Lower                               | Upper  |
| 20 MHz     | 2592.990        | BPSK       | Full RB             | 0                     | -22.55              | -28.53 | -26.71                              | -27.29 |
|            | 2679.990        | BPSK       | Full RB             | 0                     | -23.28              | -27.61 | -25.86                              | -26.17 |
| 30 MHz     | 2592.990        | BPSK       | Full RB             | 0                     | -23.59              | -30.38 | -28.26                              | -29.42 |
|            | 2679.990        | BPSK       | Full RB             | 0                     | -24.05              | -29.62 | -27.94                              | -28.06 |
| 40 MHz     | 2592.990        | BPSK       | Full RB             | 0                     | -23.83              | -31.34 | -29.32                              | -30.97 |
|            | 2670.000        | BPSK       | Full RB             | 0                     | -24.10              | -30.89 | -29.40                              | -30.21 |
| 50 MHz     | 2592.990        | BPSK       | Full RB             | 0                     | -22.94              | -30.71 | -30.25                              | -29.18 |
|            | 2664.990        | BPSK       | Full RB             | 0                     | -23.59              | -29.62 | -30.20                              | -26.99 |
| 60 MHz     | 2592.990        | BPSK       | Full RB             | 0                     | -16.13              | -18.37 | -29.53                              | -29.04 |
|            | 2659.980        | BPSK       | Full RB             | 0                     | -16.14              | -18.32 | -29.63                              | -28.13 |
| 80 MHz     | 2592.990        | BPSK       | Full RB             | 0                     | -22.07              | -25.85 | -29.14                              | -28.87 |
|            | 2649.990        | BPSK       | Full RB             | 0                     | -23.46              | -26.14 | -29.25                              | -28.43 |
| 90 MHz     | 2592.990        | BPSK       | Full RB             | 0                     | -19.59              | -30.85 | -32.28                              | -31.99 |
|            | 2644.980        | BPSK       | Full RB             | 0                     | -21.45              | -30.07 | -33.03                              | -31.44 |
| 100 MHz    | 2592.990        | BPSK       | Full RB             | 0                     | -19.03              | -30.74 | -30.11                              | -30.76 |
|            | 2640.000        | BPSK       | Full RB             | 0                     | -20.28              | -29.84 | -30.59                              | -30.22 |
| Limit      |                 |            |                     |                       | -10.0               |        | -10.0                               |        |

| Band Width | Frequency (MHz) | Modulation | Resource Block Size | Resource Block Offset | (C.E ± 5 MHz)<br>~<br>(C.E ± X MHz) |        | Above<br>(C.E ± X MHz) |        |
|------------|-----------------|------------|---------------------|-----------------------|-------------------------------------|--------|------------------------|--------|
|            |                 |            |                     |                       | Lower                               | Upper  | Lower                  | Upper  |
| 20 MHz     | 2592.990        | BPSK       | Full RB             | 0                     | -25.61                              | -24.83 | -32.63                 | -32.70 |
|            | 2679.990        | BPSK       | Full RB             | 0                     | -25.73                              | -24.97 | -32.52                 | -33.13 |
| 30 MHz     | 2592.990        | BPSK       | Full RB             | 0                     | -27.97                              | -27.41 | -36.33                 | -35.63 |
|            | 2679.990        | BPSK       | Full RB             | 0                     | -27.94                              | -26.79 | -35.80                 | -38.99 |
| 40 MHz     | 2592.990        | BPSK       | Full RB             | 0                     | -29.16                              | -28.08 | -37.16                 | -36.57 |
|            | 2670.000        | BPSK       | Full RB             | 0                     | -28.80                              | -27.92 | -36.95                 | -43.44 |
| 50 MHz     | 2592.990        | BPSK       | Full RB             | 0                     | -25.15                              | -27.14 | -34.60                 | -32.59 |
|            | 2664.990        | BPSK       | Full RB             | 0                     | -25.14                              | -26.98 | -33.59                 | -47.33 |
| 60 MHz     | 2592.990        | BPSK       | Full RB             | 0                     | -29.41                              | -28.21 | -40.14                 | -36.98 |
|            | 2659.980        | BPSK       | Full RB             | 0                     | -29.78                              | -28.39 | -38.12                 | -46.96 |
| 80 MHz     | 2592.990        | BPSK       | Full RB             | 0                     | -29.87                              | -28.84 | -44.12                 | -38.55 |
|            | 2649.990        | BPSK       | Full RB             | 0                     | -30.00                              | -27.60 | -36.70                 | -47.45 |
| 90 MHz     | 2592.990        | BPSK       | Full RB             | 0                     | -30.03                              | -26.41 | -47.22                 | -42.55 |
|            | 2644.980        | BPSK       | Full RB             | 0                     | -28.89                              | -31.43 | -40.31                 | -47.87 |
| 100 MHz    | 2592.990        | BPSK       | Full RB             | 0                     | -29.07                              | -27.83 | -47.30                 | -47.35 |
|            | 2640.000        | BPSK       | Full RB             | 0                     | -29.64                              | -29.96 | -37.66                 | -47.04 |
| Limit      |                 |            |                     |                       | -13.0                               |        | -25.0                  |        |

Note:

1. C.E = Channel Edge
2. X = X is the greater of 6 MHz or the actual emission bandwidth
3. Duty Cycle factor already applied on the factor.
  - Factor(dB) = Duty Cycle factor + Cable Loss + Ext. Attenuator + Power Splitter
  - Result(dBm) = Reading + Factor
  - Duty Cycle Factor(dB) = 6.990
4. Plots of the EUT's Channel Edge are shown Page 139 ~ 194. (1RB & Full RB)

## 8.7 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE

- ▣ BandWidth: 20 MHz
- ▣ Voltage(100 %): 3.860 VDC
- ▣ Batt. Endpoint: 3.400 VDC
- ▣ LIMIT: Emission must remain in band

| Test.<br>Frequency<br>(MHz) | Voltage<br>(%) | Temp.<br>(°C) | Frequency<br>(Hz) | Frequency<br>Error (Hz) | Deviation<br>(%) | ppm   |
|-----------------------------|----------------|---------------|-------------------|-------------------------|------------------|-------|
| 2506.020                    | 100 %          | +20(Ref)      | 2506 020 004      | 0.0                     | 0.000 000        | 0.000 |
|                             | 100 %          | -30           | 2506 020 010      | 6.4                     | 0.000 000        | 0.003 |
|                             | 100 %          | -20           | 2506 020 010      | 6.3                     | 0.000 000        | 0.002 |
|                             | 100 %          | -10           | 2506 020 012      | 8.8                     | 0.000 000        | 0.003 |
|                             | 100 %          | 0             | 2506 020 009      | 5.5                     | 0.000 000        | 0.002 |
|                             | 100 %          | +10           | 2506 020 009      | 5.5                     | 0.000 000        | 0.002 |
|                             | 100 %          | +30           | 2506 020 008      | 4.8                     | 0.000 000        | 0.002 |
|                             | 100 %          | +40           | 2506 020 011      | 7.7                     | 0.000 000        | 0.003 |
|                             | 100 %          | +50           | 2506 020 011      | 7.4                     | 0.000 000        | 0.003 |
|                             | Batt. Endpoint | +20           | 2506 020 019      | 15.2                    | 0.000 001        | 0.006 |
| 2679.990                    | 100 %          | +20(Ref)      | 2679 990 008      | 0.0                     | 0.000 000        | 0.000 |
|                             | 100 %          | -30           | 2679 990 013      | 5.2                     | 0.000 000        | 0.002 |
|                             | 100 %          | -20           | 2679 990 024      | 16.2                    | 0.000 001        | 0.006 |
|                             | 100 %          | -10           | 2679 990 020      | 12.8                    | 0.000 000        | 0.005 |
|                             | 100 %          | 0             | 2679 990 020      | 12.3                    | 0.000 000        | 0.005 |
|                             | 100 %          | +10           | 2679 990 023      | 15.5                    | 0.000 001        | 0.006 |
|                             | 100 %          | +30           | 2679 990 023      | 15.5                    | 0.000 001        | 0.006 |
|                             | 100 %          | +40           | 2679 990 013      | 5.0                     | 0.000 000        | 0.002 |
|                             | 100 %          | +50           | 2679 990 013      | 6.0                     | 0.000 000        | 0.002 |
|                             | Batt. Endpoint | +20           | 2679 990 014      | 6.5                     | 0.000 000        | 0.002 |

- ▣ BandWidth: 30 MHz
- ▣ Voltage(100 %): 3.860 VDC
- ▣ Batt. Endpoint: 3.400 VDC
- ▣ LIMIT: Emission must remain in band

| Test.<br>Frequency<br>(MHz) | Voltage<br>(%) | Temp.<br>(°C) | Frequency<br>(Hz) | Frequency<br>Error (Hz) | Deviation<br>(%) | ppm   |
|-----------------------------|----------------|---------------|-------------------|-------------------------|------------------|-------|
| 2511.000                    | 100 %          | +20(Ref)      | 2511 000 015      | 0.0                     | 0.000 000        | 0.000 |
|                             | 100 %          | -30           | 2511 000 021      | 6.2                     | 0.000 000        | 0.002 |
|                             | 100 %          | -20           | 2511 000 023      | 8.4                     | 0.000 000        | 0.003 |
|                             | 100 %          | -10           | 2511 000 019      | 4.0                     | 0.000 000        | 0.002 |
|                             | 100 %          | 0             | 2511 000 024      | 9.4                     | 0.000 000        | 0.004 |
|                             | 100 %          | +10           | 2511 000 028      | 13.8                    | 0.000 001        | 0.005 |
|                             | 100 %          | +30           | 2511 000 025      | 10.2                    | 0.000 000        | 0.004 |
|                             | 100 %          | +40           | 2511 000 025      | 10.7                    | 0.000 000        | 0.004 |
|                             | 100 %          | +50           | 2511 000 019      | 4.7                     | 0.000 000        | 0.002 |
|                             | Batt. Endpoint | +20           | 2511 000 023      | 8.1                     | 0.000 000        | 0.003 |
| 2674.980                    | 100 %          | +20(Ref)      | 2674 980 006      | 0.0                     | 0.000 000        | 0.000 |
|                             | 100 %          | -30           | 2674 980 022      | 16.1                    | 0.000 001        | 0.006 |
|                             | 100 %          | -20           | 2674 980 011      | 4.8                     | 0.000 000        | 0.002 |
|                             | 100 %          | -10           | 2674 980 016      | 9.6                     | 0.000 000        | 0.004 |
|                             | 100 %          | 0             | 2674 980 019      | 12.5                    | 0.000 000        | 0.005 |
|                             | 100 %          | +10           | 2674 980 020      | 14.1                    | 0.000 001        | 0.005 |
|                             | 100 %          | +30           | 2674 980 014      | 7.7                     | 0.000 000        | 0.003 |
|                             | 100 %          | +40           | 2674 980 014      | 8.0                     | 0.000 000        | 0.003 |
|                             | 100 %          | +50           | 2674 980 009      | 3.1                     | 0.000 000        | 0.001 |
|                             | Batt. Endpoint | +20           | 2674 980 014      | 8.2                     | 0.000 000        | 0.003 |

- ☐ BandWidth: 40 MHz  
☐ Voltage(100 %): 3.860 VDC  
☐ Batt. Endpoint: 3.400 VDC  
☐ LIMIT: Emission must remain in band

| Test.<br>Frequency<br>(MHz) | Voltage<br>(%) | Temp.<br>(°C) | Frequency<br>(Hz) | Frequency<br>Error (Hz) | Deviation<br>(%) | ppm   |
|-----------------------------|----------------|---------------|-------------------|-------------------------|------------------|-------|
| 2516.010                    | 100 %          | +20(Ref)      | 2516 010 009      | 0.0                     | 0.000 000        | 0.000 |
|                             | 100 %          | -30           | 2516 010 016      | 7.2                     | 0.000 000        | 0.003 |
|                             | 100 %          | -20           | 2516 010 013      | 4.7                     | 0.000 000        | 0.002 |
|                             | 100 %          | -10           | 2516 010 015      | 6.3                     | 0.000 000        | 0.002 |
|                             | 100 %          | 0             | 2516 010 016      | 7.3                     | 0.000 000        | 0.003 |
|                             | 100 %          | +10           | 2516 010 024      | 15.3                    | 0.000 001        | 0.006 |
|                             | 100 %          | +30           | 2516 010 014      | 5.2                     | 0.000 000        | 0.002 |
|                             | 100 %          | +40           | 2516 010 021      | 12.7                    | 0.000 001        | 0.005 |
|                             | 100 %          | +50           | 2516 010 017      | 8.5                     | 0.000 000        | 0.003 |
|                             | Batt. Endpoint | +20           | 2516 010 022      | 13.5                    | 0.000 001        | 0.005 |
| 2670.000                    | 100 %          | +20(Ref)      | 2670 000 012      | 0.0                     | 0.000 000        | 0.000 |
|                             | 100 %          | -30           | 2670 000 018      | 5.2                     | 0.000 000        | 0.002 |
|                             | 100 %          | -20           | 2670 000 025      | 12.3                    | 0.000 000        | 0.005 |
|                             | 100 %          | -10           | 2670 000 024      | 11.6                    | 0.000 000        | 0.004 |
|                             | 100 %          | 0             | 2670 000 029      | 16.6                    | 0.000 001        | 0.006 |
|                             | 100 %          | +10           | 2670 000 016      | 3.8                     | 0.000 000        | 0.001 |
|                             | 100 %          | +30           | 2670 000 023      | 10.2                    | 0.000 000        | 0.004 |
|                             | 100 %          | +40           | 2670 000 028      | 15.1                    | 0.000 001        | 0.006 |
|                             | 100 %          | +50           | 2670 000 023      | 10.4                    | 0.000 000        | 0.004 |
|                             | Batt. Endpoint | +20           | 2670 000 019      | 6.8                     | 0.000 000        | 0.003 |

- ▣ BandWidth: 50 MHz
- ▣ Voltage(100 %): 3.860 VDC
- ▣ Batt. Endpoint: 3.400 VDC
- ▣ LIMIT: Emission must remain in band

| Test.<br>Frequency<br>(MHz) | Voltage<br>(%) | Temp.<br>(°C) | Frequency<br>(Hz) | Frequency<br>Error (Hz) | Deviation<br>(%) | ppm   |
|-----------------------------|----------------|---------------|-------------------|-------------------------|------------------|-------|
| 2521.020                    | 100 %          | +20(Ref)      | 2521 020 012      | 0.0                     | 0.000 000        | 0.000 |
|                             | 100 %          | -30           | 2521 020 025      | 13.1                    | 0.000 001        | 0.005 |
|                             | 100 %          | -20           | 2521 020 017      | 4.7                     | 0.000 000        | 0.002 |
|                             | 100 %          | -10           | 2521 020 027      | 14.7                    | 0.000 001        | 0.006 |
|                             | 100 %          | 0             | 2521 020 022      | 9.6                     | 0.000 000        | 0.004 |
|                             | 100 %          | +10           | 2521 020 017      | 4.5                     | 0.000 000        | 0.002 |
|                             | 100 %          | +30           | 2521 020 021      | 8.7                     | 0.000 000        | 0.003 |
|                             | 100 %          | +40           | 2521 020 028      | 16.2                    | 0.000 001        | 0.006 |
|                             | 100 %          | +50           | 2521 020 021      | 8.5                     | 0.000 000        | 0.003 |
|                             | Batt. Endpoint | +20           | 2521 020 018      | 6.2                     | 0.000 000        | 0.002 |
| 2664.990                    | 100 %          | +20(Ref)      | 2664 990 012      | 0.0                     | 0.000 000        | 0.000 |
|                             | 100 %          | -30           | 2664 990 026      | 13.8                    | 0.000 001        | 0.005 |
|                             | 100 %          | -20           | 2664 990 025      | 13.0                    | 0.000 000        | 0.005 |
|                             | 100 %          | -10           | 2664 990 017      | 5.3                     | 0.000 000        | 0.002 |
|                             | 100 %          | 0             | 2664 990 018      | 6.4                     | 0.000 000        | 0.002 |
|                             | 100 %          | +10           | 2664 990 020      | 8.1                     | 0.000 000        | 0.003 |
|                             | 100 %          | +30           | 2664 990 020      | 8.4                     | 0.000 000        | 0.003 |
|                             | 100 %          | +40           | 2664 990 018      | 6.4                     | 0.000 000        | 0.002 |
|                             | 100 %          | +50           | 2664 990 017      | 4.8                     | 0.000 000        | 0.002 |
|                             | Batt. Endpoint | +20           | 2664 990 016      | 3.9                     | 0.000 000        | 0.001 |

- ▣ BandWidth: 60 MHz
- ▣ Voltage(100 %): 3.860 VDC
- ▣ Batt. Endpoint: 3.400 VDC
- ▣ LIMIT: Emission must remain in band

| Test.<br>Frequency<br>(MHz) | Voltage<br>(%) | Temp.<br>(°C) | Frequency<br>(Hz) | Frequency<br>Error (Hz) | Deviation<br>(%) | ppm   |
|-----------------------------|----------------|---------------|-------------------|-------------------------|------------------|-------|
| 2526.000                    | 100 %          | +20(Ref)      | 2526 000 005      | 0.0                     | 0.000 000        | 0.000 |
|                             | 100 %          | -30           | 2526 000 017      | 12.0                    | 0.000 000        | 0.005 |
|                             | 100 %          | -20           | 2526 000 010      | 4.9                     | 0.000 000        | 0.002 |
|                             | 100 %          | -10           | 2526 000 016      | 11.0                    | 0.000 000        | 0.004 |
|                             | 100 %          | 0             | 2526 000 016      | 11.0                    | 0.000 000        | 0.004 |
|                             | 100 %          | +10           | 2526 000 009      | 3.5                     | 0.000 000        | 0.001 |
|                             | 100 %          | +30           | 2526 000 017      | 11.5                    | 0.000 000        | 0.005 |
|                             | 100 %          | +40           | 2526 000 013      | 7.7                     | 0.000 000        | 0.003 |
|                             | 100 %          | +50           | 2526 000 013      | 8.1                     | 0.000 000        | 0.003 |
|                             | Batt. Endpoint | +20           | 2526 000 016      | 10.9                    | 0.000 000        | 0.004 |
| 2659.980                    | 100 %          | +20(Ref)      | 2659 980 014      | 0.0                     | 0.000 000        | 0.000 |
|                             | 100 %          | -30           | 2659 980 020      | 6.8                     | 0.000 000        | 0.003 |
|                             | 100 %          | -20           | 2659 980 025      | 11.5                    | 0.000 000        | 0.004 |
|                             | 100 %          | -10           | 2659 980 017      | 3.9                     | 0.000 000        | 0.001 |
|                             | 100 %          | 0             | 2659 980 022      | 8.7                     | 0.000 000        | 0.003 |
|                             | 100 %          | +10           | 2659 980 023      | 9.0                     | 0.000 000        | 0.003 |
|                             | 100 %          | +30           | 2659 980 018      | 4.3                     | 0.000 000        | 0.002 |
|                             | 100 %          | +40           | 2659 980 028      | 14.7                    | 0.000 001        | 0.006 |
|                             | 100 %          | +50           | 2659 980 017      | 3.7                     | 0.000 000        | 0.001 |
|                             | Batt. Endpoint | +20           | 2659 980 026      | 12.7                    | 0.000 000        | 0.005 |

- ☐ BandWidth: 80 MHz  
☐ Voltage(100 %): 3.860 VDC  
☐ Batt. Endpoint: 3.400 VDC  
☐ LIMIT: Emission must remain in band

| Test.<br>Frequency<br>(MHz) | Voltage<br>(%) | Temp.<br>(°C) | Frequency<br>(Hz) | Frequency<br>Error (Hz) | Deviation<br>(%) | ppm   |
|-----------------------------|----------------|---------------|-------------------|-------------------------|------------------|-------|
| 2536.020                    | 100 %          | +20(Ref)      | 2536 020 011      | 0.0                     | 0.000 000        | 0.000 |
|                             | 100 %          | -30           | 2536 020 026      | 14.2                    | 0.000 001        | 0.006 |
|                             | 100 %          | -20           | 2536 020 024      | 12.7                    | 0.000 000        | 0.005 |
|                             | 100 %          | -10           | 2536 020 016      | 4.9                     | 0.000 000        | 0.002 |
|                             | 100 %          | 0             | 2536 020 017      | 5.2                     | 0.000 000        | 0.002 |
|                             | 100 %          | +10           | 2536 020 021      | 9.8                     | 0.000 000        | 0.004 |
|                             | 100 %          | +30           | 2536 020 020      | 8.8                     | 0.000 000        | 0.003 |
|                             | 100 %          | +40           | 2536 020 016      | 4.9                     | 0.000 000        | 0.002 |
|                             | 100 %          | +50           | 2536 020 017      | 5.9                     | 0.000 000        | 0.002 |
|                             | Batt. Endpoint | +20           | 2536 020 021      | 9.5                     | 0.000 000        | 0.004 |
| 2649.990                    | 100 %          | +20(Ref)      | 2649 990 006      | 0.0                     | 0.000 000        | 0.000 |
|                             | 100 %          | -30           | 2649 990 020      | 13.4                    | 0.000 001        | 0.005 |
|                             | 100 %          | -20           | 2649 990 020      | 13.2                    | 0.000 000        | 0.005 |
|                             | 100 %          | -10           | 2649 990 022      | 15.3                    | 0.000 001        | 0.006 |
|                             | 100 %          | 0             | 2649 990 012      | 5.1                     | 0.000 000        | 0.002 |
|                             | 100 %          | +10           | 2649 990 017      | 10.6                    | 0.000 000        | 0.004 |
|                             | 100 %          | +30           | 2649 990 011      | 4.4                     | 0.000 000        | 0.002 |
|                             | 100 %          | +40           | 2649 990 018      | 11.8                    | 0.000 000        | 0.004 |
|                             | 100 %          | +50           | 2649 990 019      | 12.5                    | 0.000 000        | 0.005 |
|                             | Batt. Endpoint | +20           | 2649 990 016      | 10.0                    | 0.000 000        | 0.004 |

- ▣ BandWidth: 90 MHz
- ▣ Voltage(100 %): 3.860 VDC
- ▣ Batt. Endpoint: 3.400 VDC
- ▣ LIMIT: Emission must remain in band

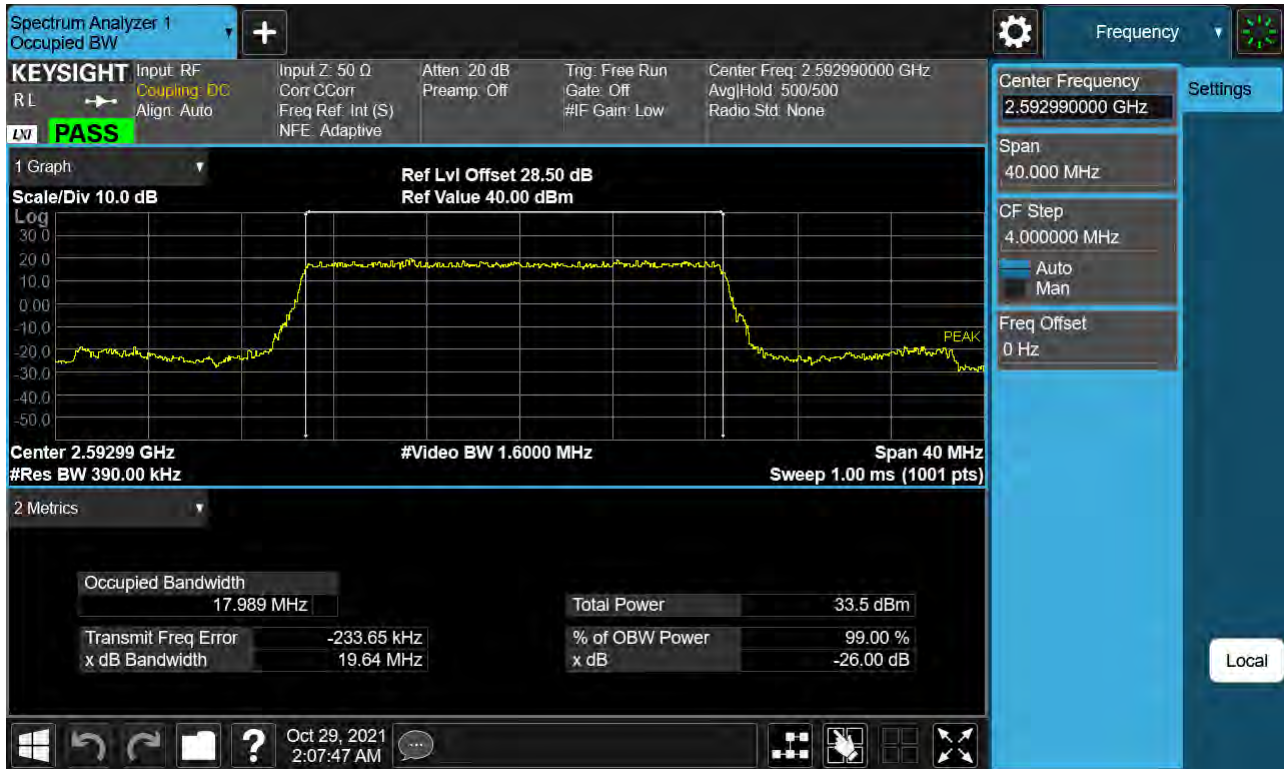
| Test.<br>Frequency<br>(MHz) | Voltage<br>(%) | Temp.<br>(°C) | Frequency<br>(Hz) | Frequency<br>Error (Hz) | Deviation<br>(%) | ppm   |
|-----------------------------|----------------|---------------|-------------------|-------------------------|------------------|-------|
| 2541.000                    | 100 %          | +20(Ref)      | 2541 000 017      | 0.0                     | 0.000 000        | 0.000 |
|                             | 100 %          | -30           | 2541 000 030      | 13.4                    | 0.000 001        | 0.005 |
|                             | 100 %          | -20           | 2541 000 024      | 7.6                     | 0.000 000        | 0.003 |
|                             | 100 %          | -10           | 2541 000 032      | 15.2                    | 0.000 001        | 0.006 |
|                             | 100 %          | 0             | 2541 000 030      | 13.8                    | 0.000 001        | 0.005 |
|                             | 100 %          | +10           | 2541 000 030      | 12.9                    | 0.000 001        | 0.005 |
|                             | 100 %          | +30           | 2541 000 033      | 16.0                    | 0.000 001        | 0.006 |
|                             | 100 %          | +40           | 2541 000 033      | 16.0                    | 0.000 001        | 0.006 |
|                             | 100 %          | +50           | 2541 000 021      | 4.4                     | 0.000 000        | 0.002 |
|                             | Batt. Endpoint | +20           | 2541 000 021      | 4.2                     | 0.000 000        | 0.002 |
| 2644.980                    | 100 %          | +20(Ref)      | 2644 980 004      | 0.0                     | 0.000 000        | 0.000 |
|                             | 100 %          | -30           | 2644 980 012      | 7.8                     | 0.000 000        | 0.003 |
|                             | 100 %          | -20           | 2644 980 018      | 14.1                    | 0.000 001        | 0.005 |
|                             | 100 %          | -10           | 2644 980 012      | 7.4                     | 0.000 000        | 0.003 |
|                             | 100 %          | 0             | 2644 980 011      | 6.7                     | 0.000 000        | 0.003 |
|                             | 100 %          | +10           | 2644 980 008      | 3.7                     | 0.000 000        | 0.001 |
|                             | 100 %          | +30           | 2644 980 018      | 13.5                    | 0.000 001        | 0.005 |
|                             | 100 %          | +40           | 2644 980 021      | 16.7                    | 0.000 001        | 0.006 |
|                             | 100 %          | +50           | 2644 980 010      | 5.9                     | 0.000 000        | 0.002 |
|                             | Batt. Endpoint | +20           | 2644 980 015      | 11.1                    | 0.000 000        | 0.004 |

- ☐ BandWidth: 100 MHz  
☐ Voltage(100 %): 3.860 VDC  
☐ Batt. Endpoint: 3.400 VDC  
☐ LIMIT: Emission must remain in band

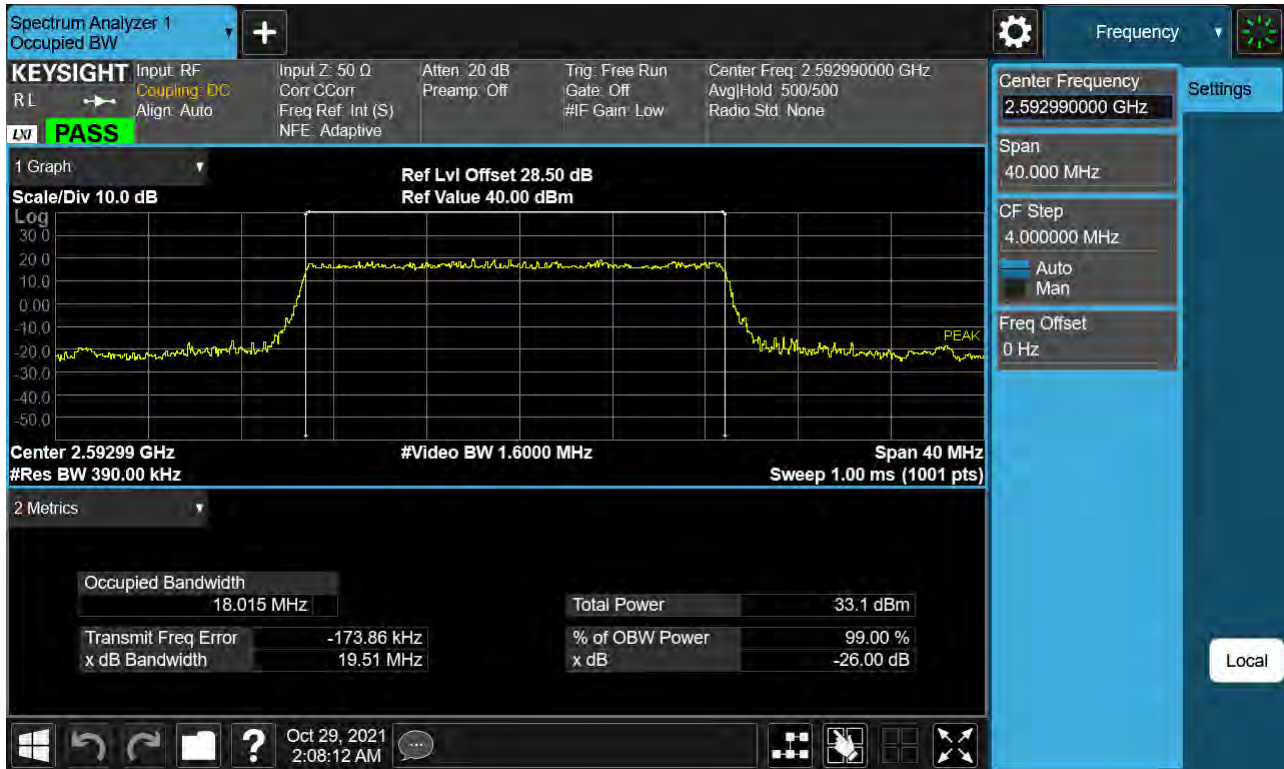
| Test.<br>Frequency<br>(MHz) | Voltage<br>(%) | Temp.<br>(°C) | Frequency<br>(Hz) | Frequency<br>Error (Hz) | Deviation<br>(%) | ppm   |
|-----------------------------|----------------|---------------|-------------------|-------------------------|------------------|-------|
| 2546.010                    | 100 %          | +20(Ref)      | 2546 010 008      | 0.0                     | 0.000 000        | 0.000 |
|                             | 100 %          | -30           | 2546 010 018      | 9.5                     | 0.000 000        | 0.004 |
|                             | 100 %          | -20           | 2546 010 019      | 10.5                    | 0.000 000        | 0.004 |
|                             | 100 %          | -10           | 2546 010 017      | 8.9                     | 0.000 000        | 0.004 |
|                             | 100 %          | 0             | 2546 010 022      | 13.9                    | 0.000 001        | 0.005 |
|                             | 100 %          | +10           | 2546 010 015      | 6.4                     | 0.000 000        | 0.003 |
|                             | 100 %          | +30           | 2546 010 013      | 4.6                     | 0.000 000        | 0.002 |
|                             | 100 %          | +40           | 2546 010 020      | 11.8                    | 0.000 000        | 0.005 |
|                             | 100 %          | +50           | 2546 010 017      | 8.3                     | 0.000 000        | 0.003 |
|                             | Batt. Endpoint | +20           | 2546 010 022      | 13.2                    | 0.000 001        | 0.005 |
| 2640.000                    | 100 %          | +20(Ref)      | 2640 000 016      | 0.0                     | 0.000 000        | 0.000 |
|                             | 100 %          | -30           | 2640 000 020      | 4.6                     | 0.000 000        | 0.002 |
|                             | 100 %          | -20           | 2640 000 024      | 8.4                     | 0.000 000        | 0.003 |
|                             | 100 %          | -10           | 2640 000 033      | 16.8                    | 0.000 001        | 0.006 |
|                             | 100 %          | 0             | 2640 000 022      | 6.6                     | 0.000 000        | 0.002 |
|                             | 100 %          | +10           | 2640 000 031      | 15.0                    | 0.000 001        | 0.006 |
|                             | 100 %          | +30           | 2640 000 027      | 10.9                    | 0.000 000        | 0.004 |
|                             | 100 %          | +40           | 2640 000 021      | 5.3                     | 0.000 000        | 0.002 |
|                             | 100 %          | +50           | 2640 000 031      | 15.4                    | 0.000 001        | 0.006 |
|                             | Batt. Endpoint | +20           | 2640 000 026      | 10.3                    | 0.000 000        | 0.004 |

## 9. TEST PLOTS

Sub6 n41. Occupied Bandwidth Plot (20 MHz Ch.518598 BPSK )



Sub6 n41. Occupied Bandwidth Plot (20 MHz Ch.518598 QPSK )



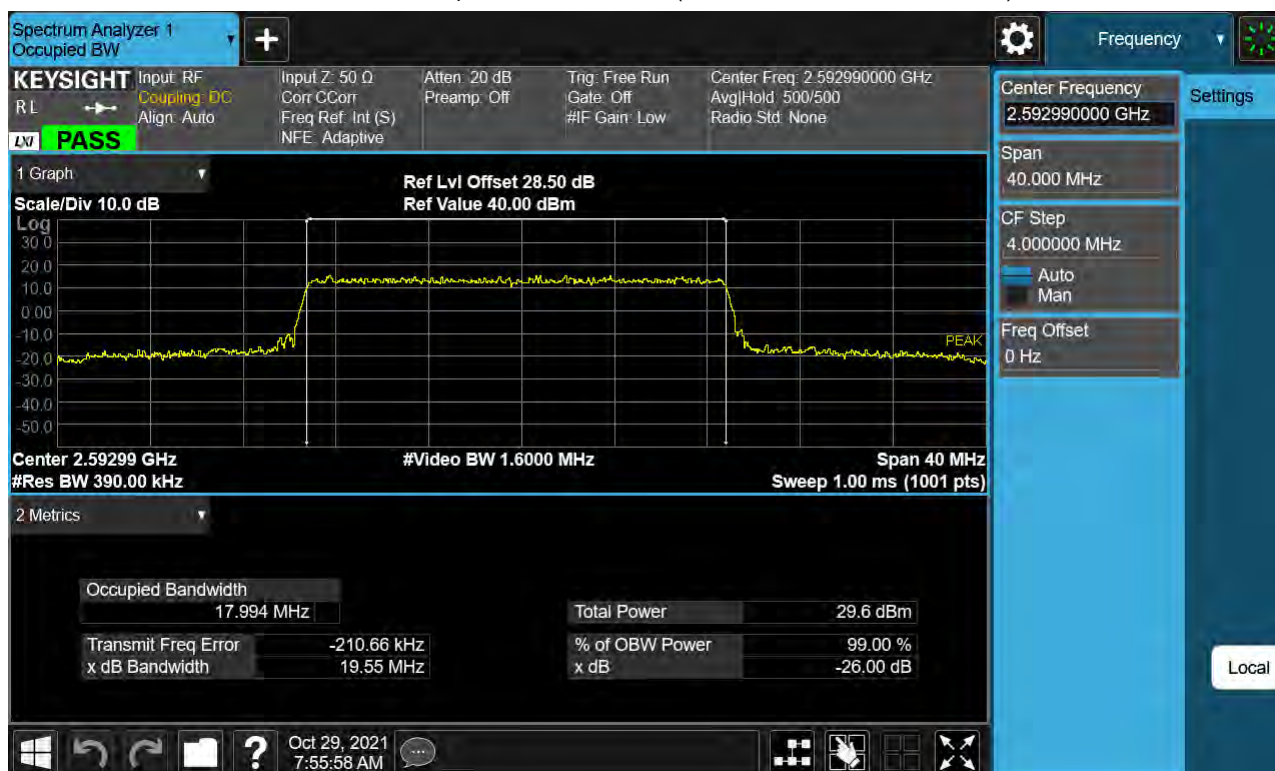
Sub6 n41. Occupied Bandwidth Plot (20 MHz Ch.518598 16-QAM )



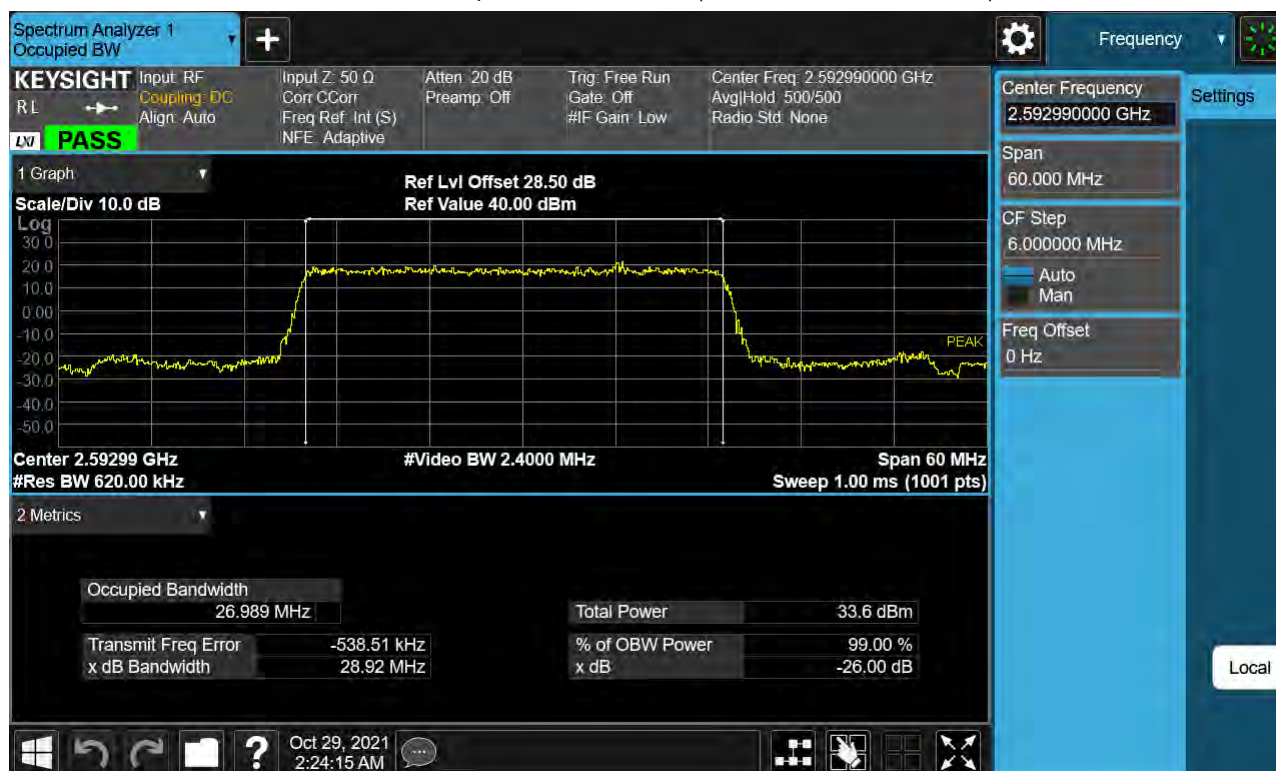
Sub6 n41. Occupied Bandwidth Plot (20 MHz Ch.518598 64-QAM )



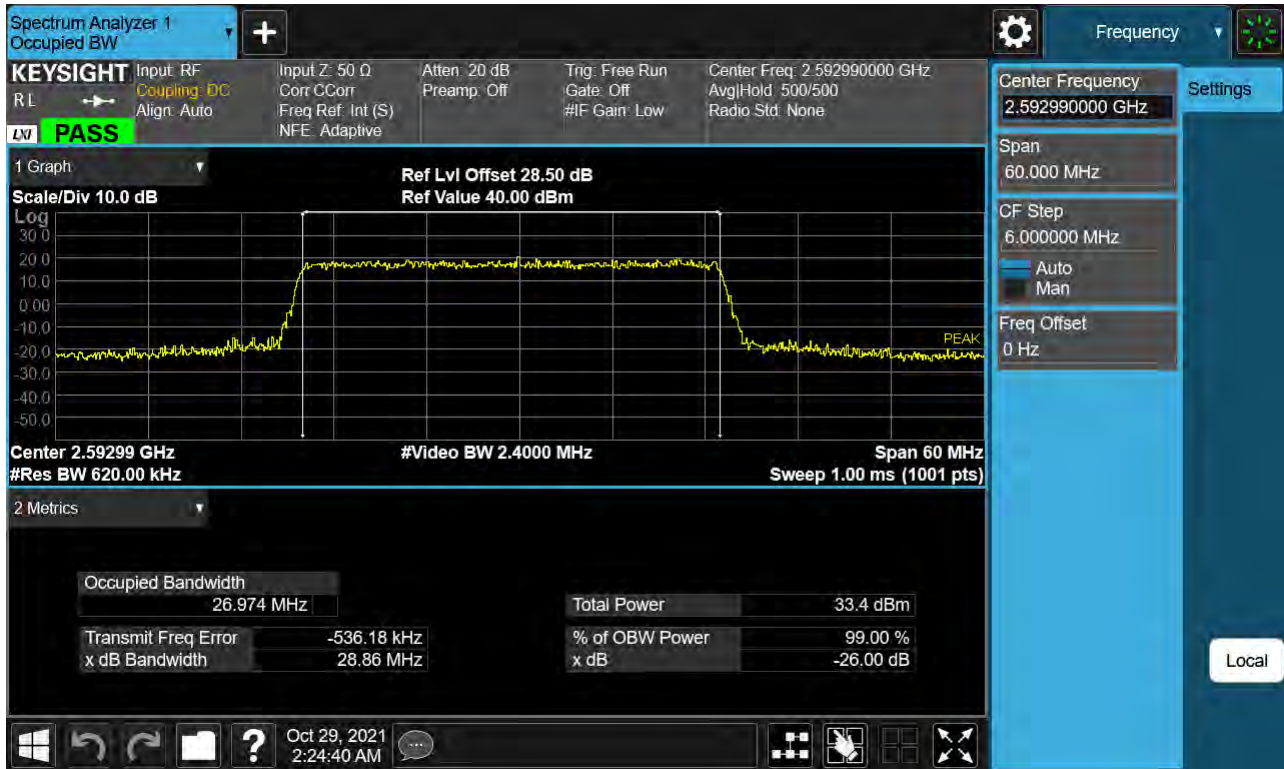
Sub6 n41. Occupied Bandwidth Plot (20 MHz Ch.518598 256-QAM )



Sub6 n41. Occupied Bandwidth Plot (30 MHz Ch.518598 BPSK )



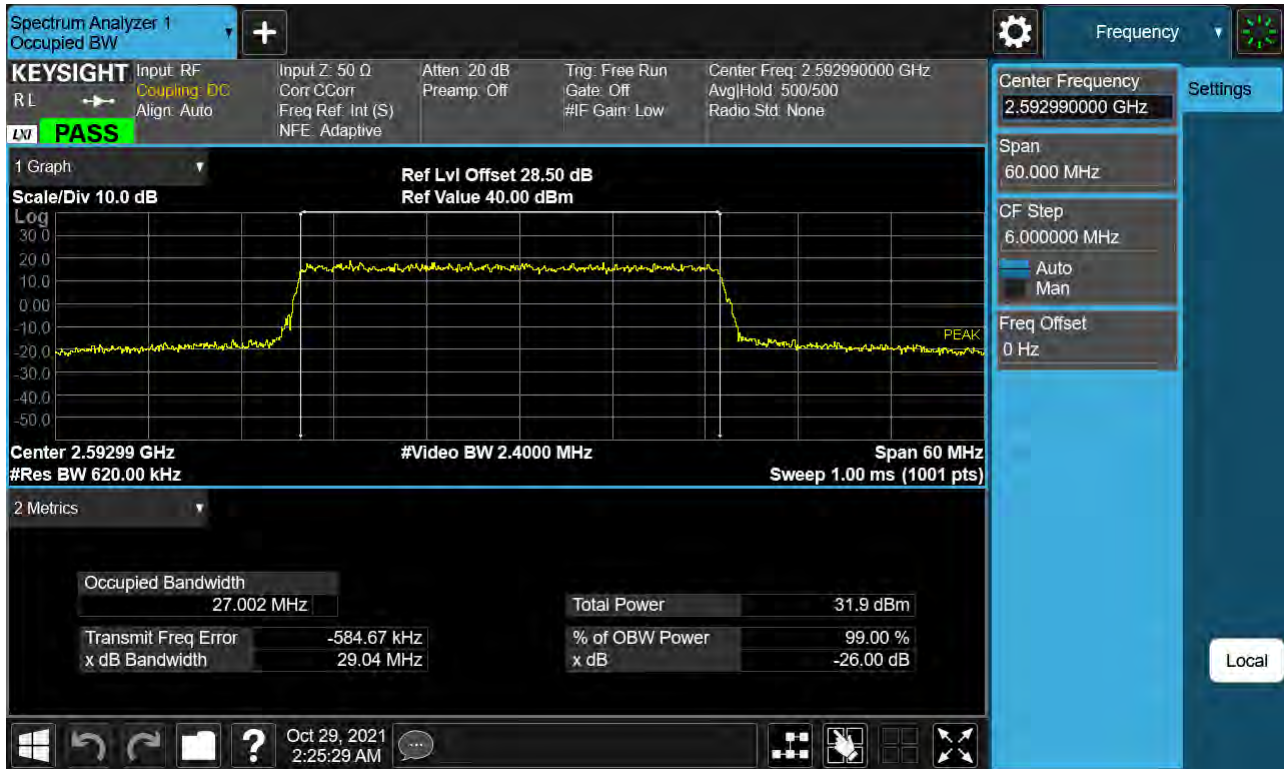
Sub6 n41. Occupied Bandwidth Plot (30 MHz Ch.518598 QPSK )



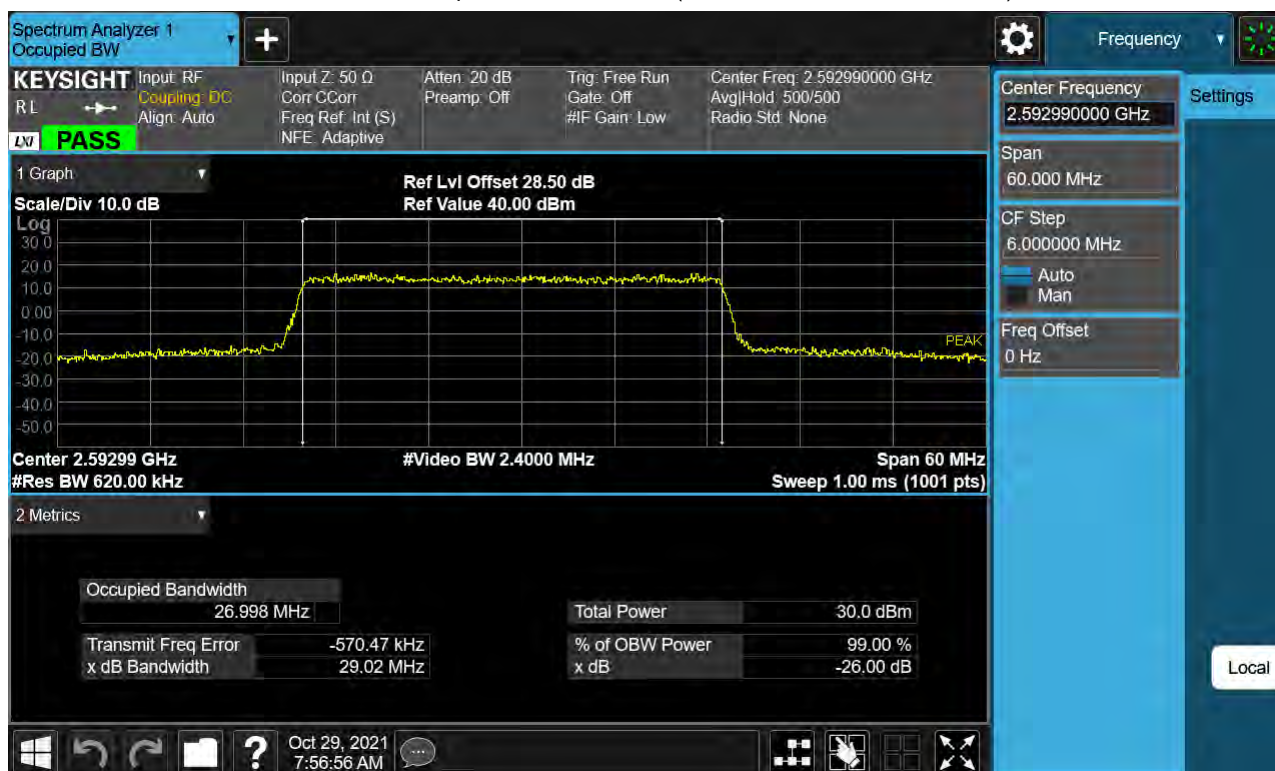
Sub6 n41. Occupied Bandwidth Plot (30 MHz Ch.518598 16-QAM )



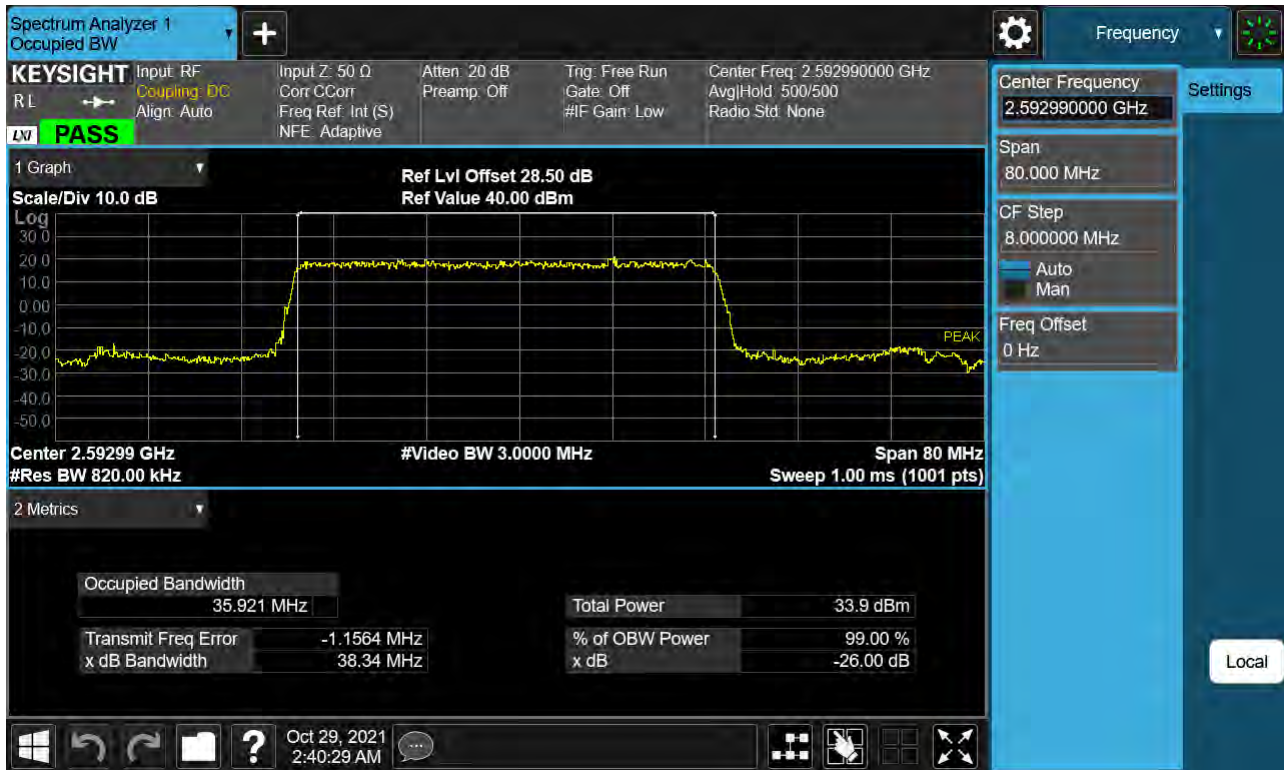
Sub6 n41. Occupied Bandwidth Plot (30 MHz Ch.518598 64-QAM )



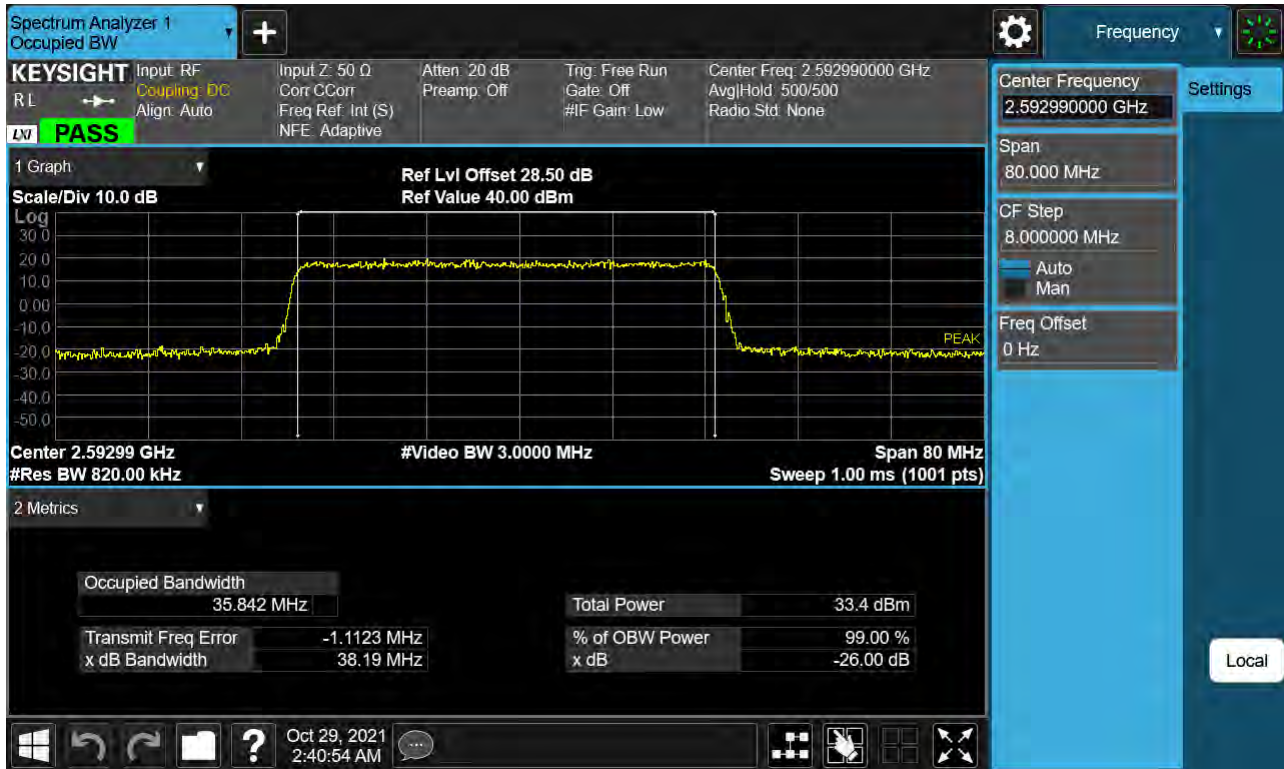
Sub6 n41. Occupied Bandwidth Plot (30 MHz Ch.518598 256-QAM )



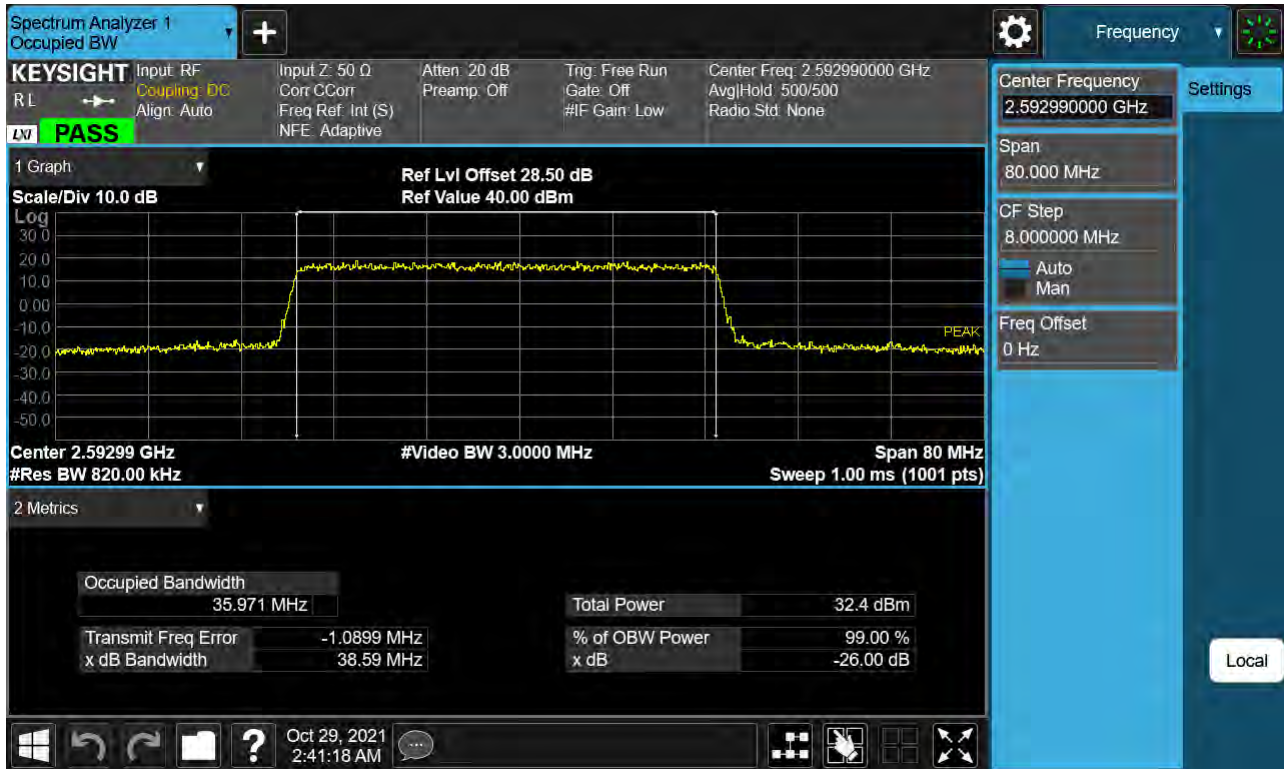
Sub6 n41. Occupied Bandwidth Plot (40 MHz Ch.518598 BPSK )



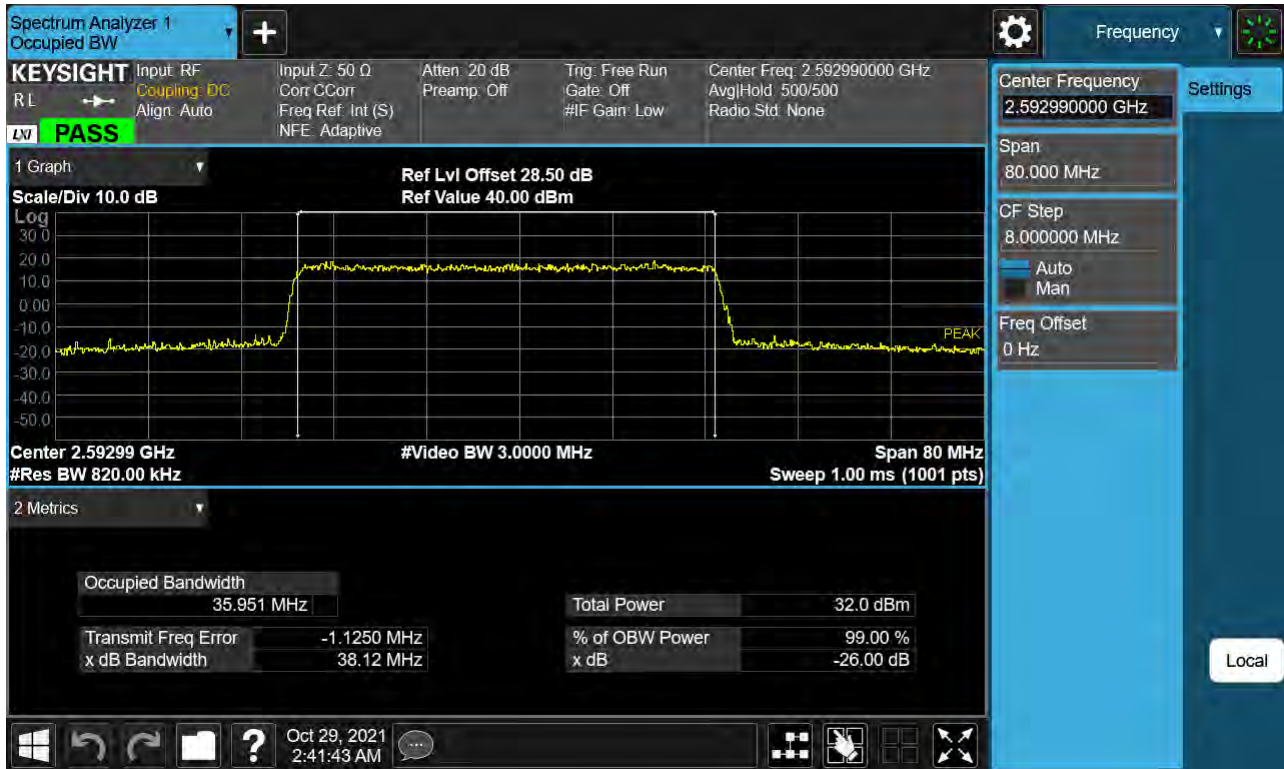
Sub6 n41. Occupied Bandwidth Plot (40 MHz Ch.518598 QPSK )



Sub6 n41. Occupied Bandwidth Plot (40 MHz Ch.518598 16-QAM )



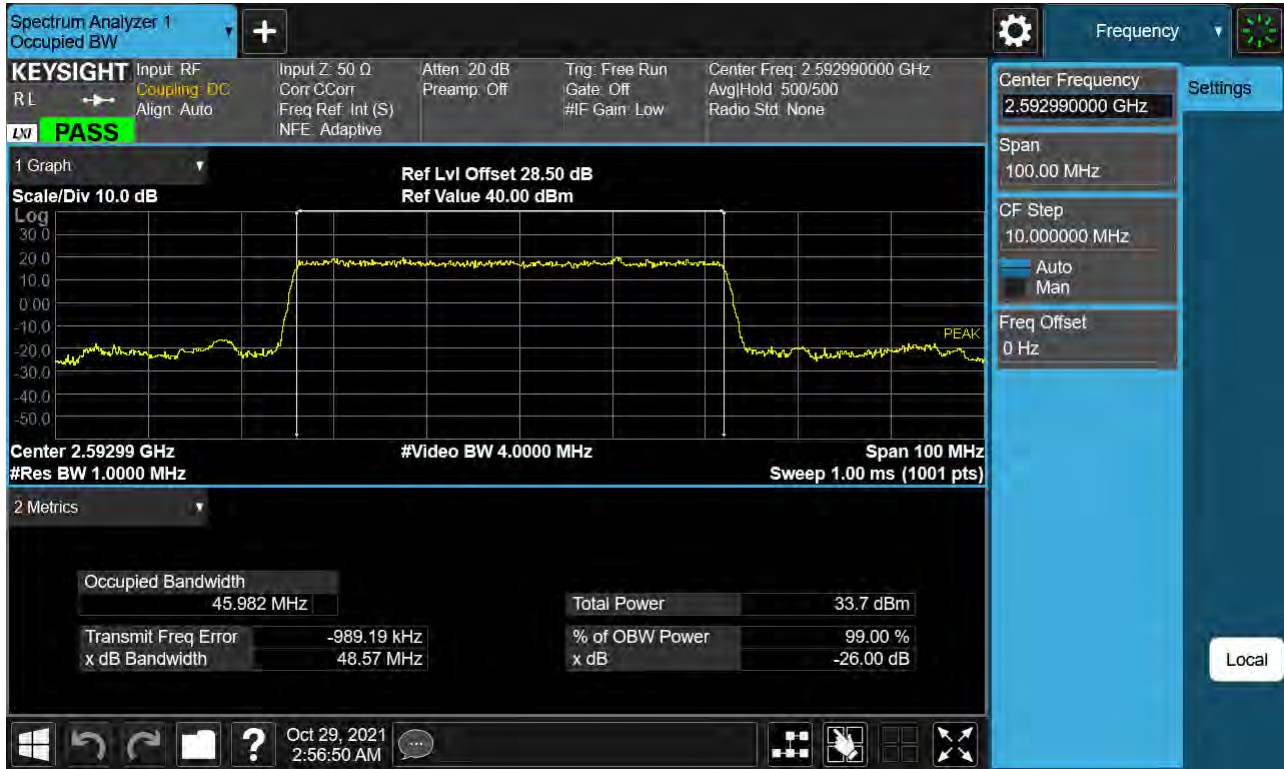
Sub6 n41. Occupied Bandwidth Plot (40 MHz Ch.518598 64-QAM )



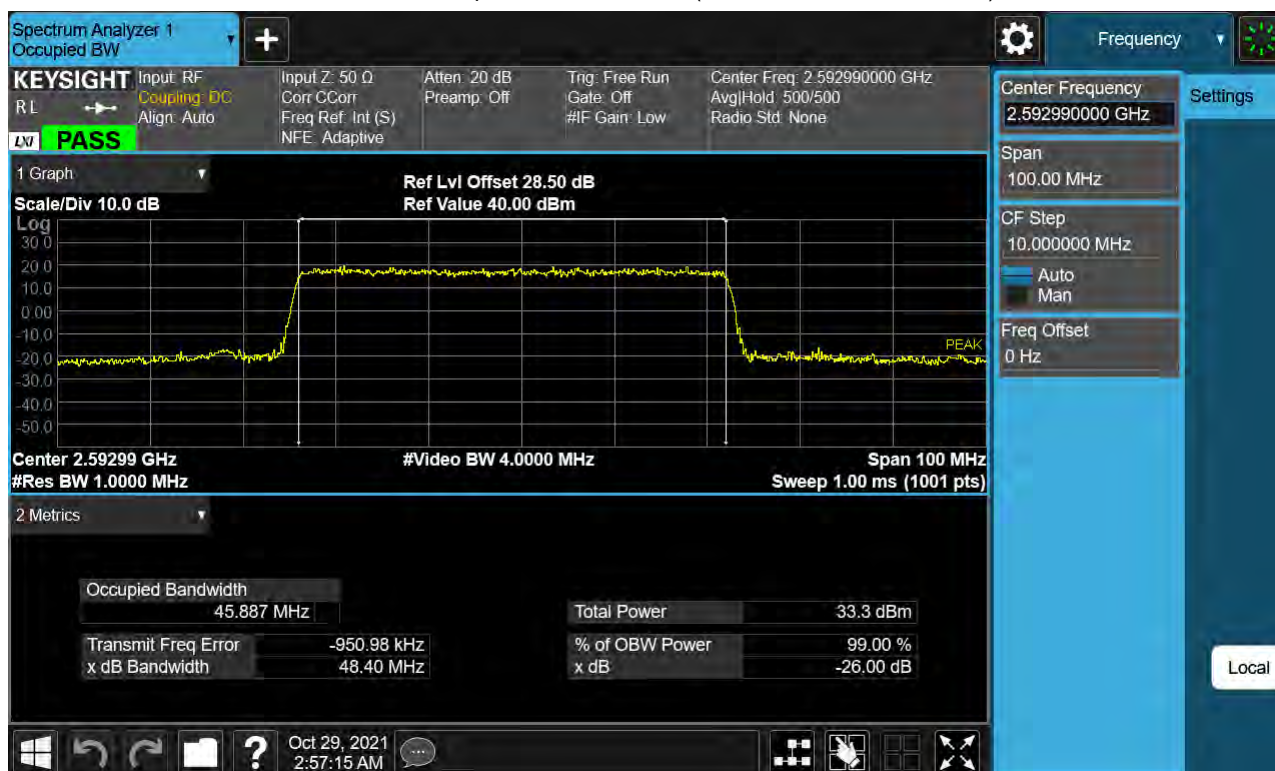
Sub6 n41. Occupied Bandwidth Plot (40 MHz Ch.518598 256-QAM )



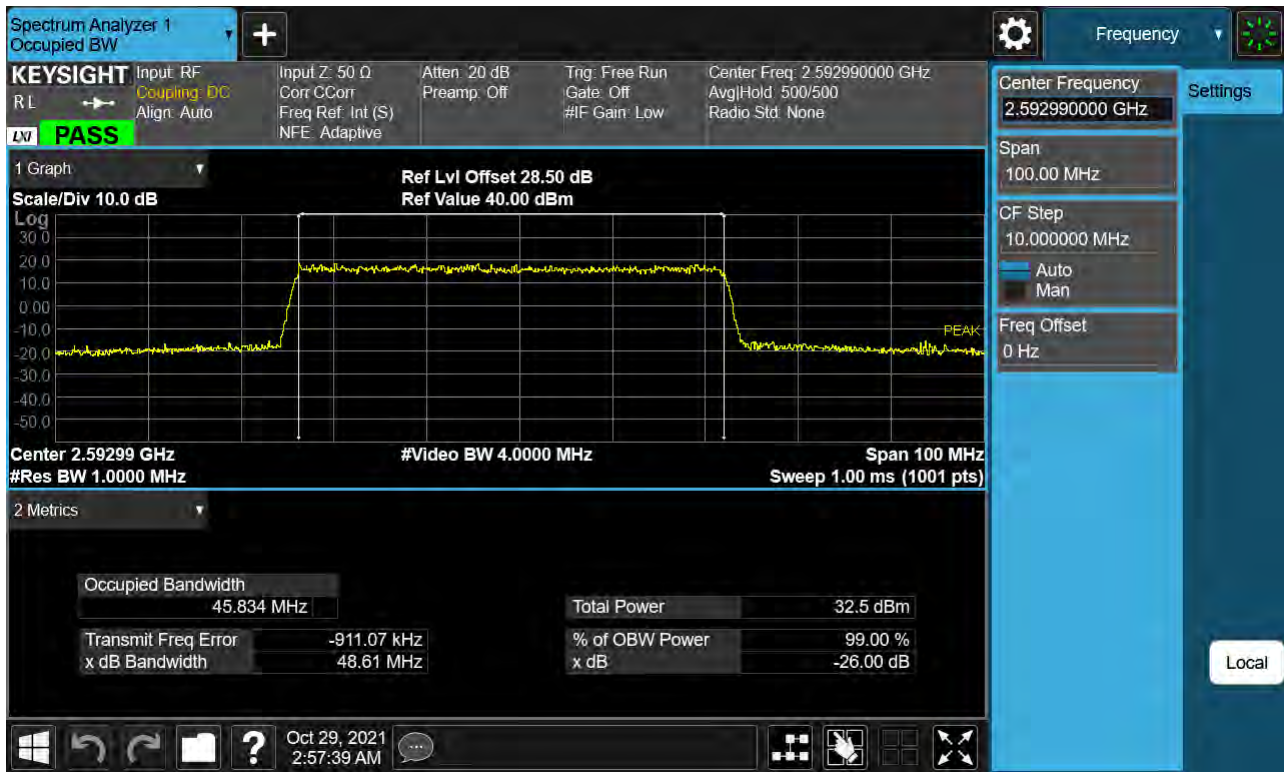
Sub6 n41. Occupied Bandwidth Plot (50 MHz Ch.518598 BPSK )



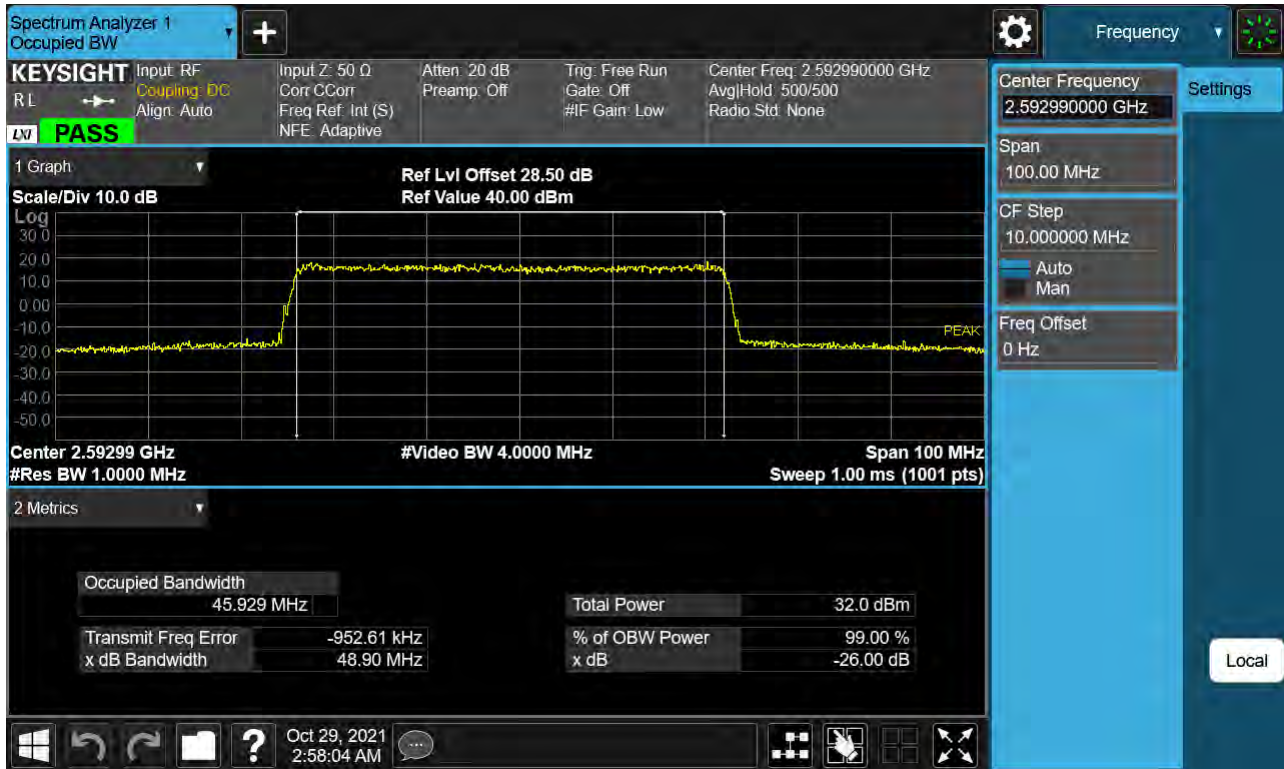
Sub6 n41. Occupied Bandwidth Plot (50 MHz Ch.518598 QPSK )



Sub6 n41. Occupied Bandwidth Plot (50 MHz Ch.518598 16-QAM )



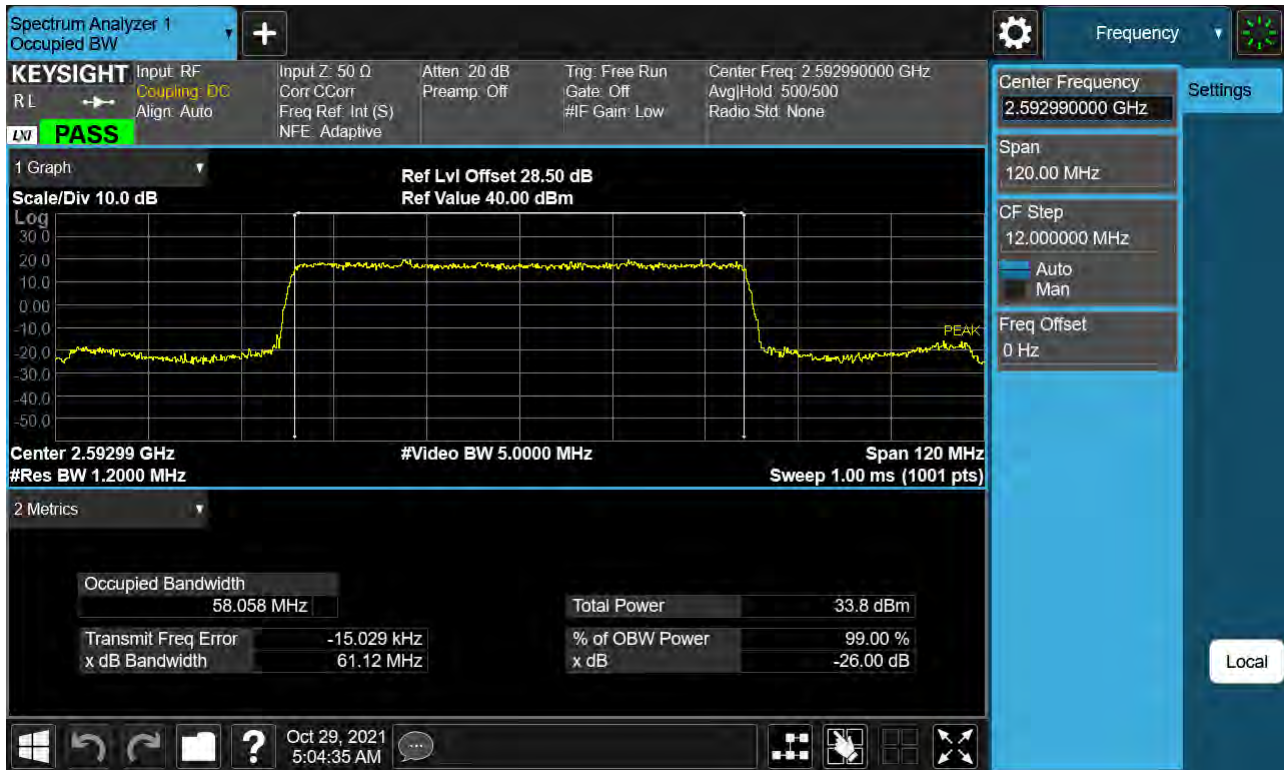
Sub6 n41. Occupied Bandwidth Plot (50 MHz Ch.518598 64-QAM )



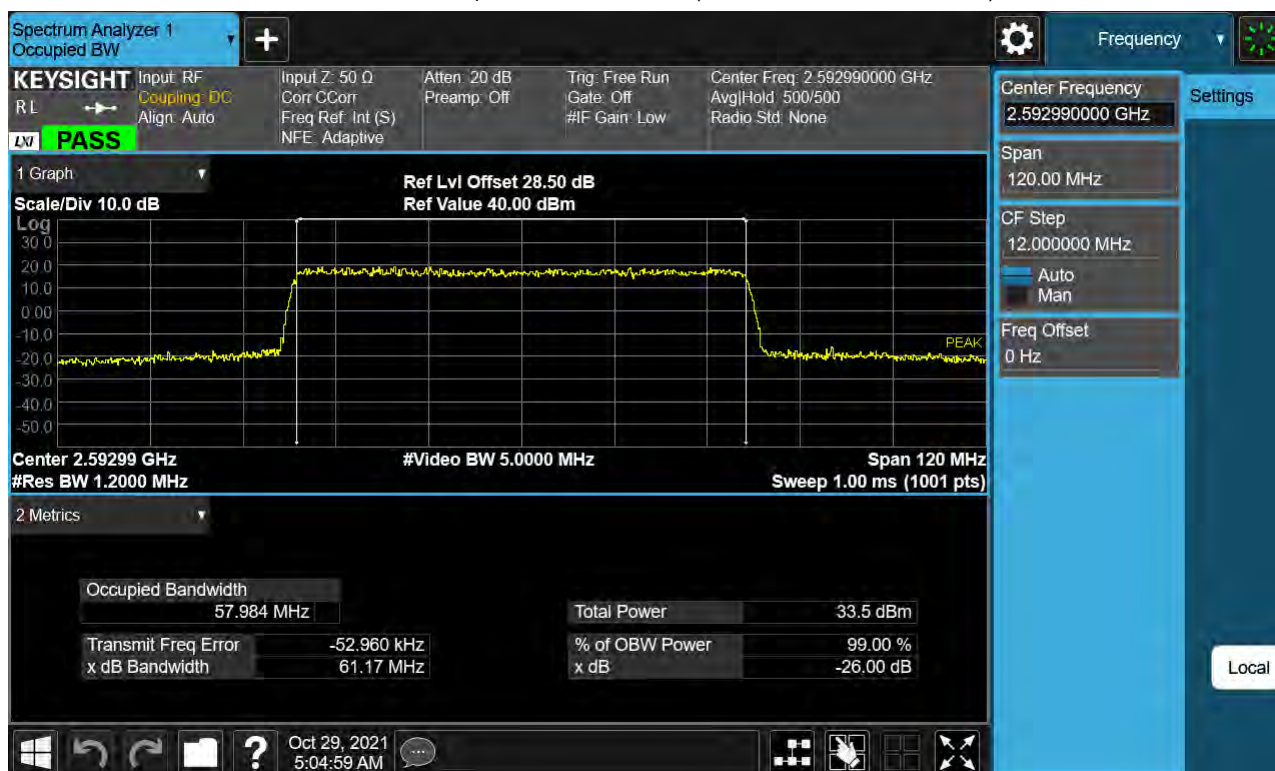
Sub6 n41. Occupied Bandwidth Plot (50 MHz Ch.518598 256-QAM )



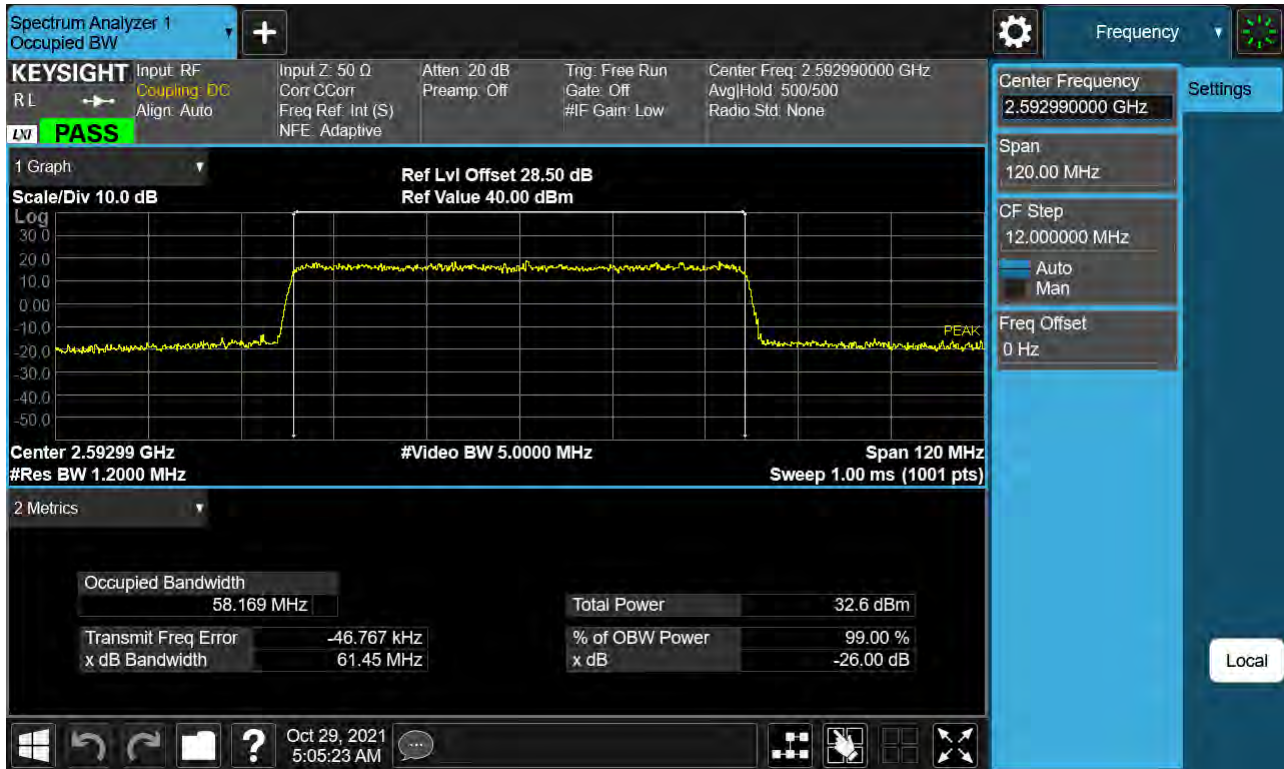
Sub6 n41. Occupied Bandwidth Plot (60 MHz Ch.518598 BPSK )



Sub6 n41. Occupied Bandwidth Plot (60 MHz Ch.518598 QPSK )



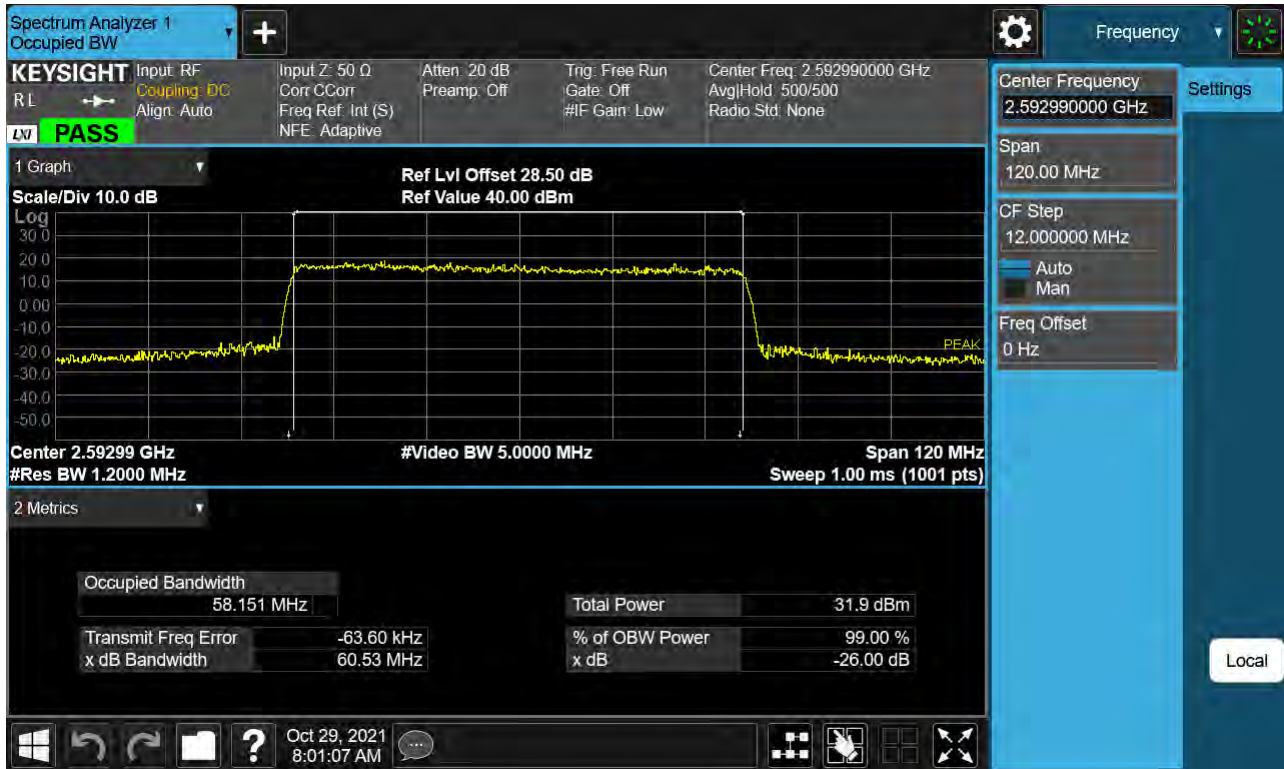
Sub6 n41. Occupied Bandwidth Plot (60 MHz Ch.518598 16-QAM )



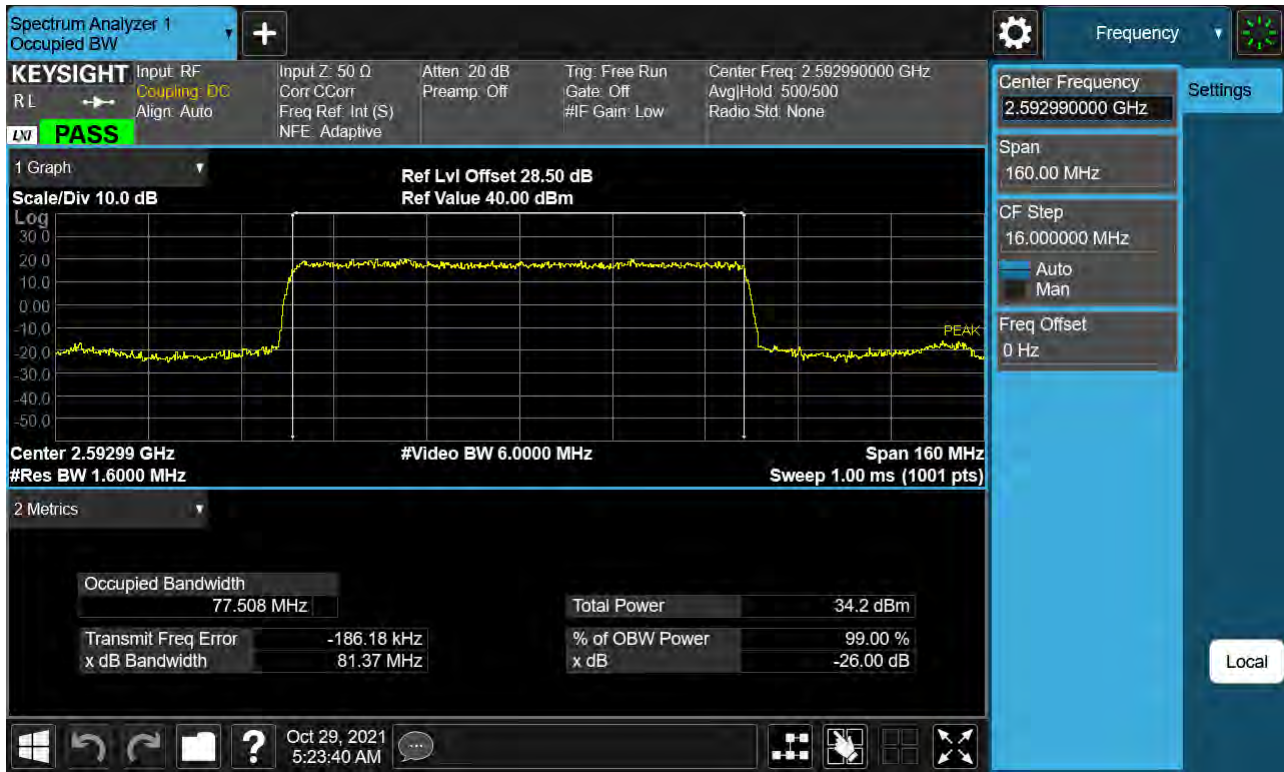
Sub6 n41. Occupied Bandwidth Plot (60 MHz Ch.518598 64-QAM )



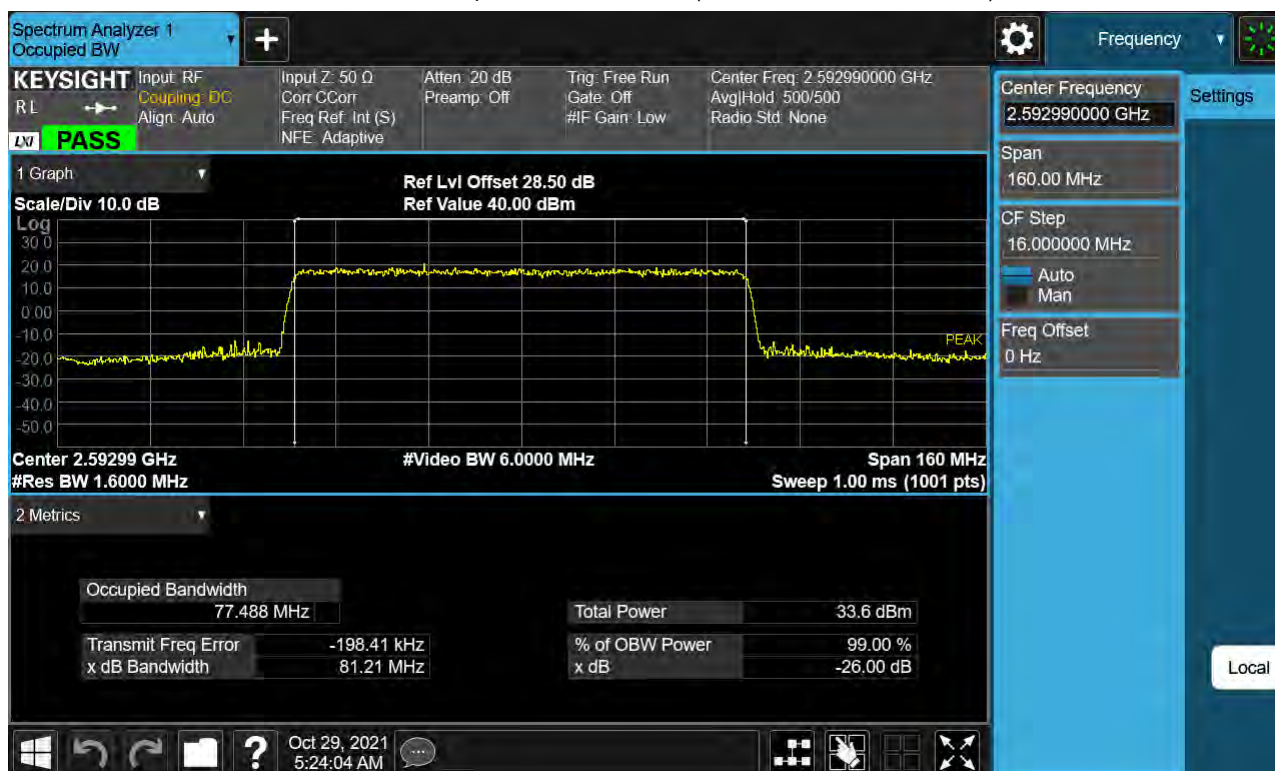
Sub6 n41. Occupied Bandwidth Plot (60 MHz Ch.518598 256-QAM )



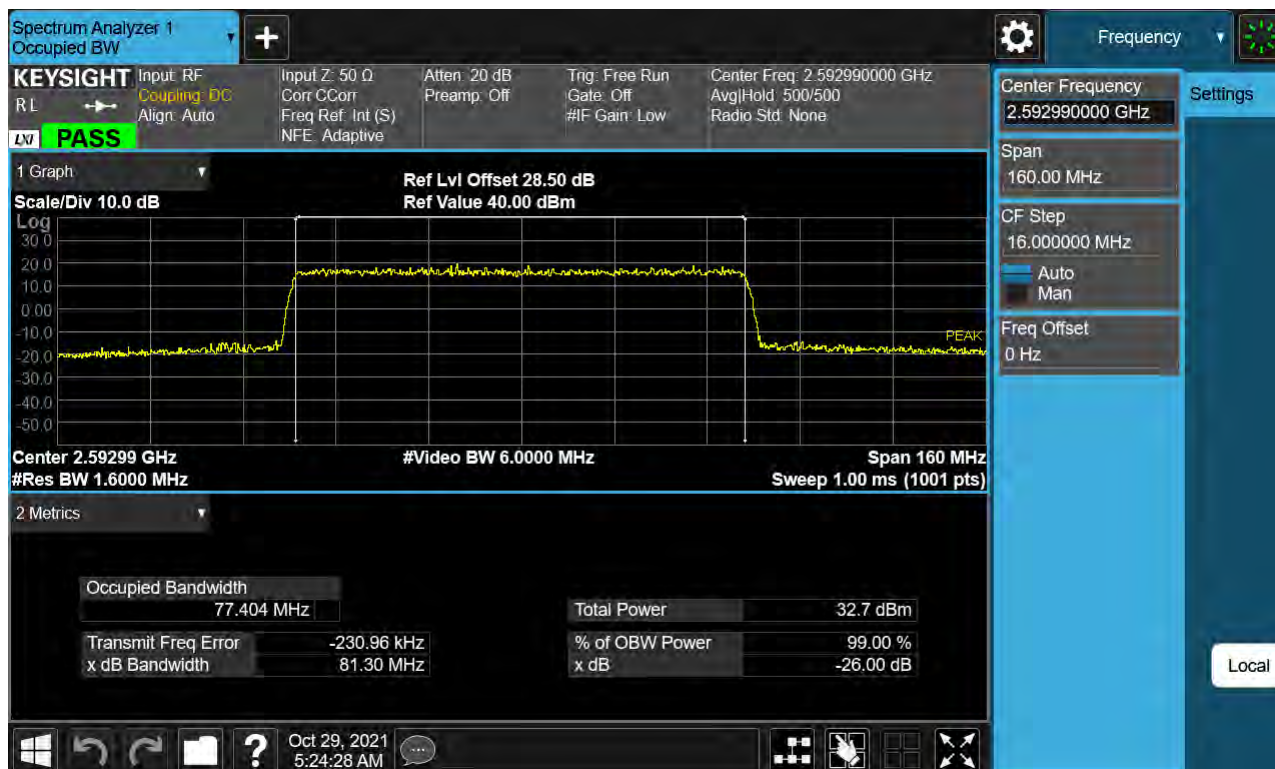
Sub6 n41. Occupied Bandwidth Plot (80 MHz Ch.518598 BPSK )



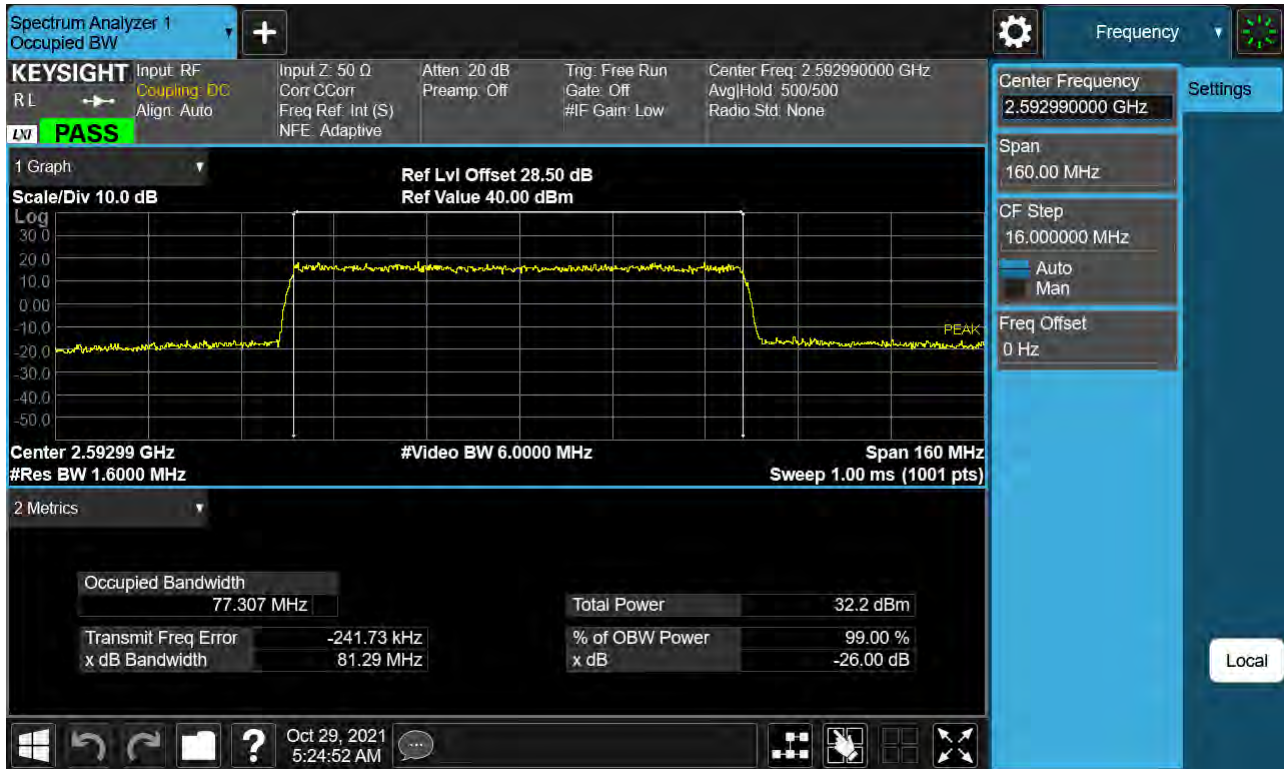
Sub6 n41. Occupied Bandwidth Plot (80 MHz Ch.518598 QPSK )



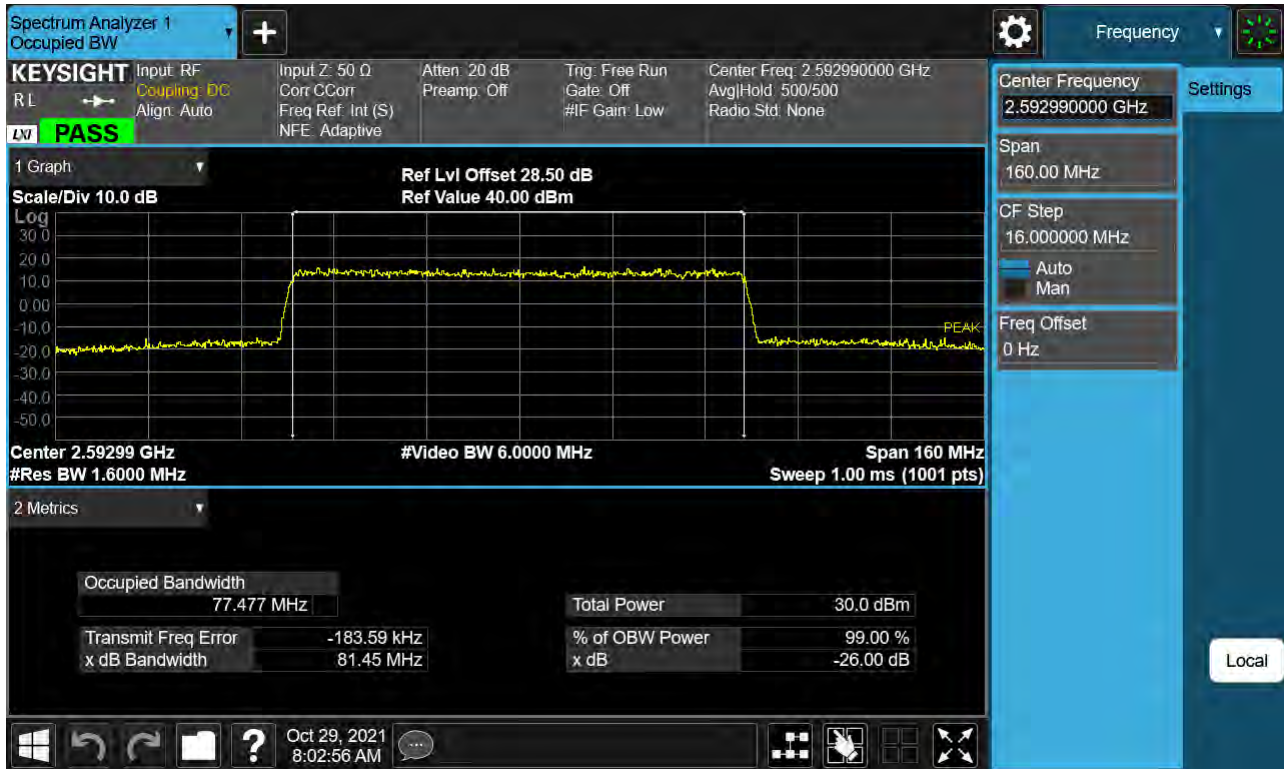
Sub6 n41. Occupied Bandwidth Plot (80 MHz Ch.518598 16-QAM )



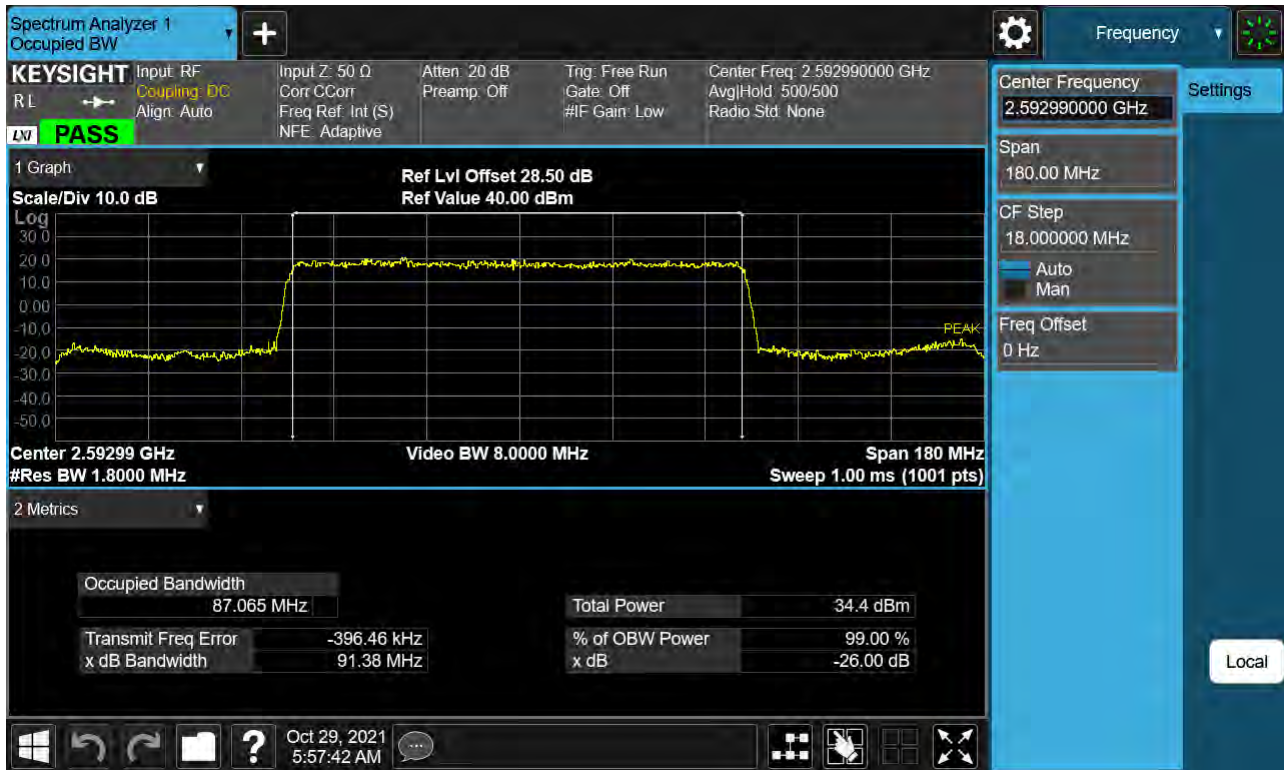
Sub6 n41. Occupied Bandwidth Plot (80 MHz Ch.518598 64-QAM )



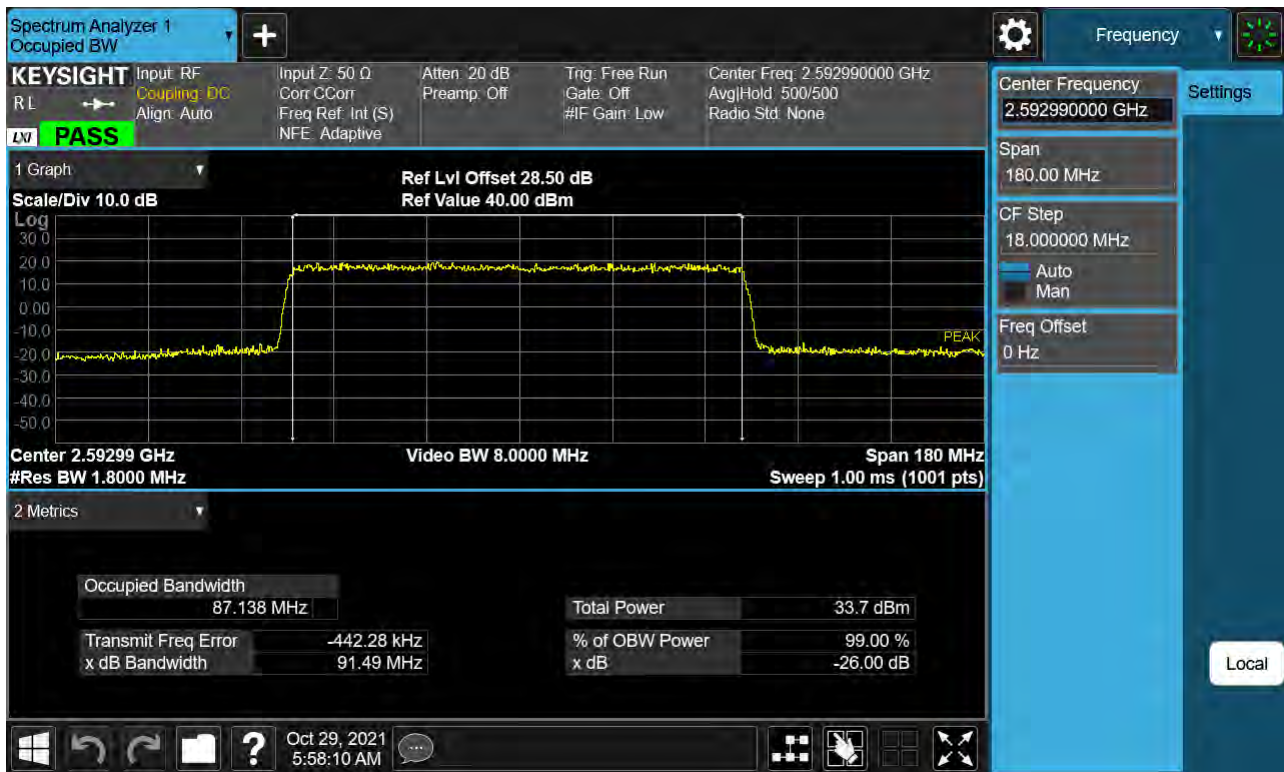
Sub6 n41. Occupied Bandwidth Plot (80 MHz Ch.518598 256-QAM )



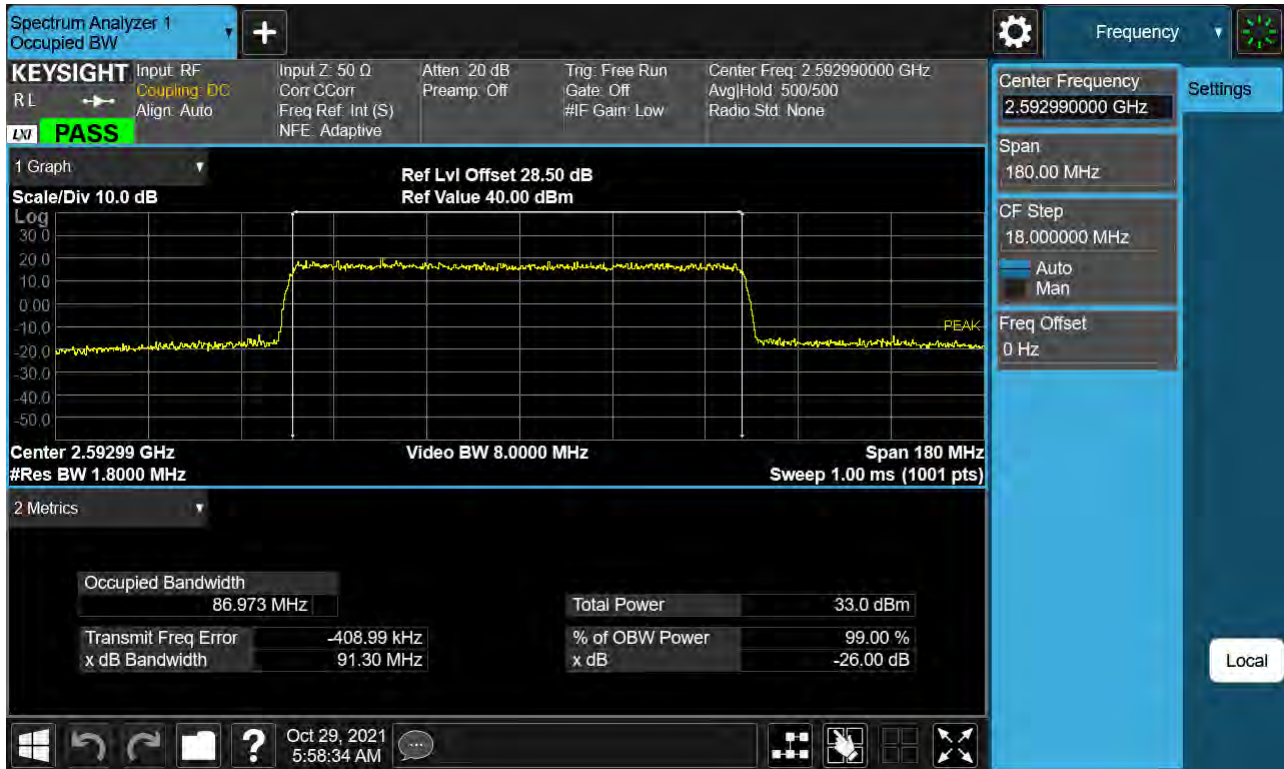
Sub6 n41. Occupied Bandwidth Plot (90 MHz Ch.518598 BPSK )



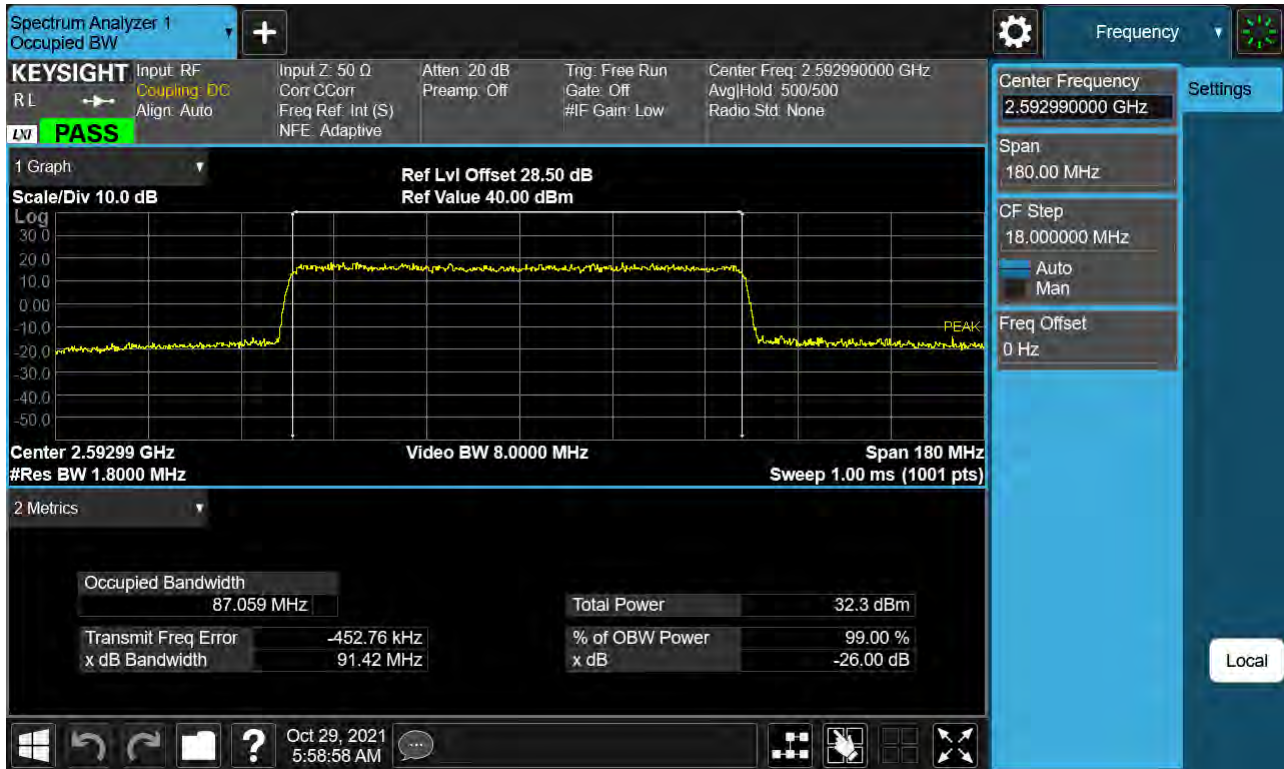
Sub6 n41. Occupied Bandwidth Plot (90 MHz Ch.518598 QPSK )



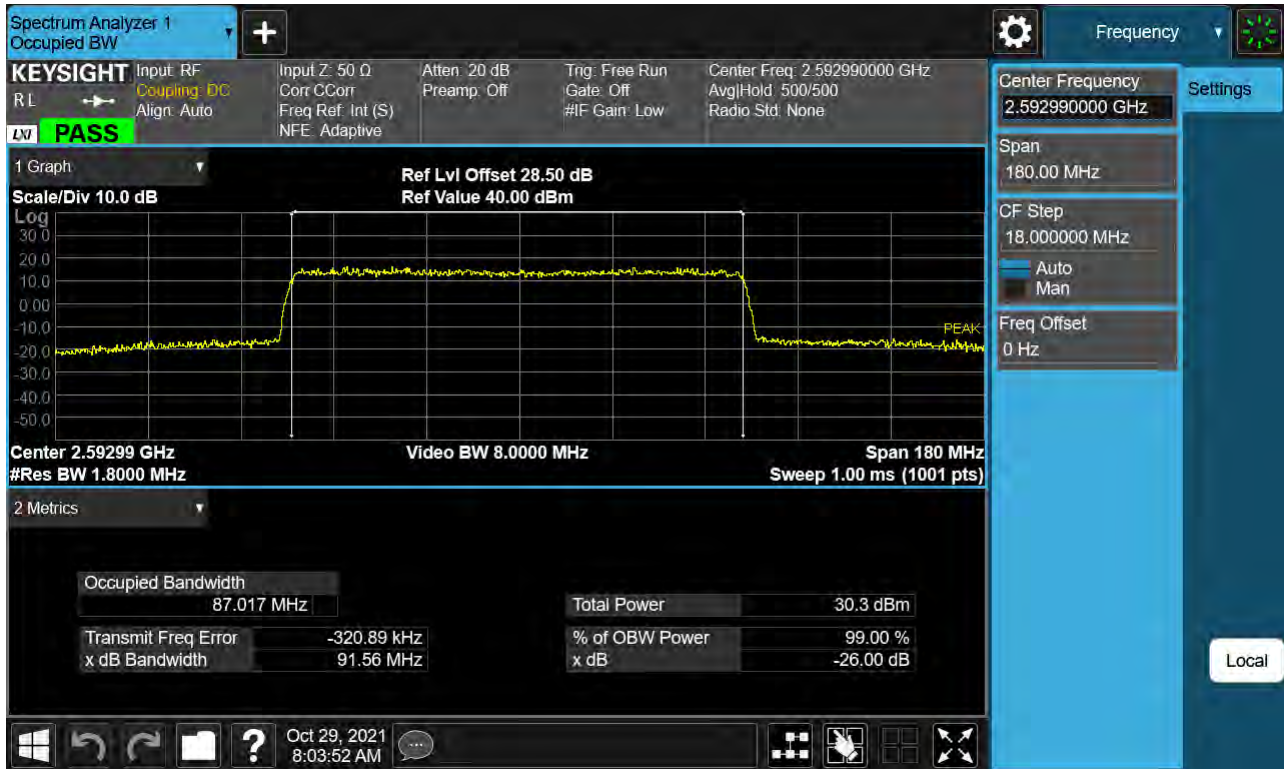
Sub6 n41. Occupied Bandwidth Plot (90 MHz Ch.518598 16-QAM )



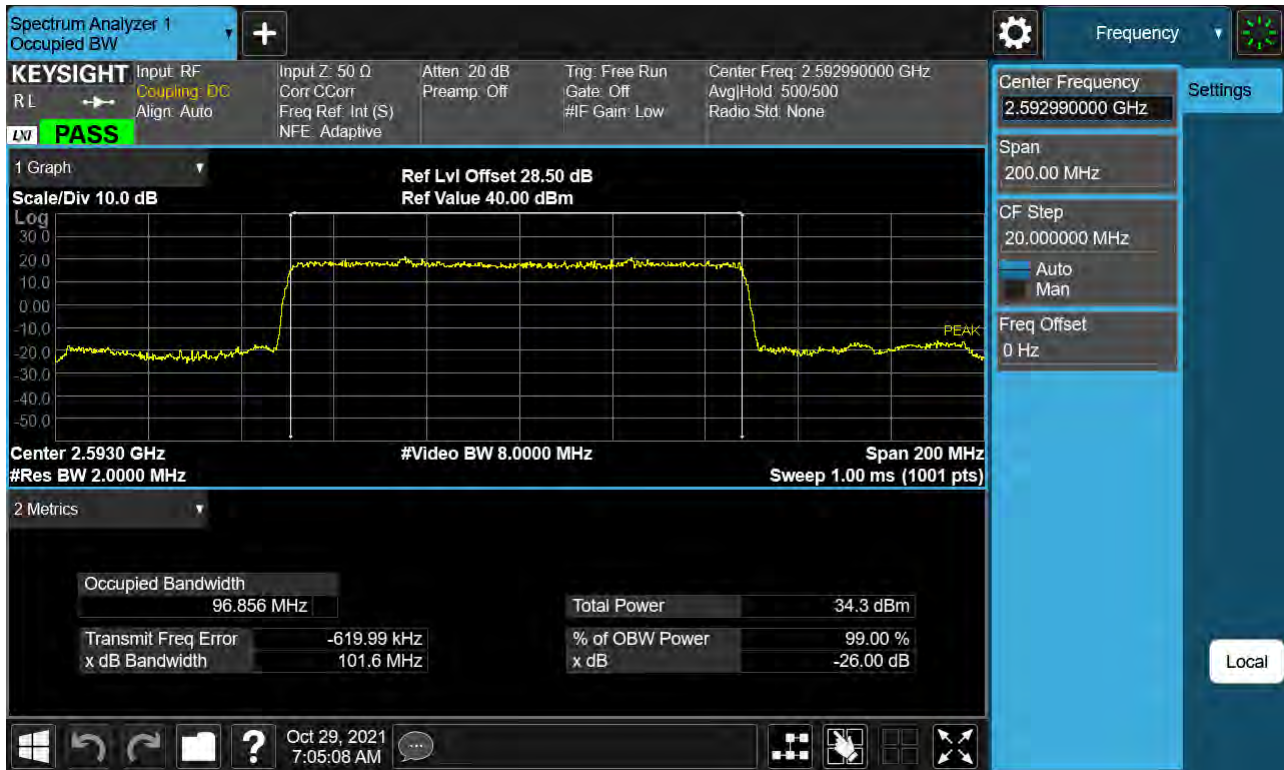
Sub6 n41. Occupied Bandwidth Plot (90 MHz Ch.518598 64-QAM )



Sub6 n41. Occupied Bandwidth Plot (90 MHz Ch.518598 256-QAM )



Sub6 n41. Occupied Bandwidth Plot (100 MHz Ch.518598 BPSK )



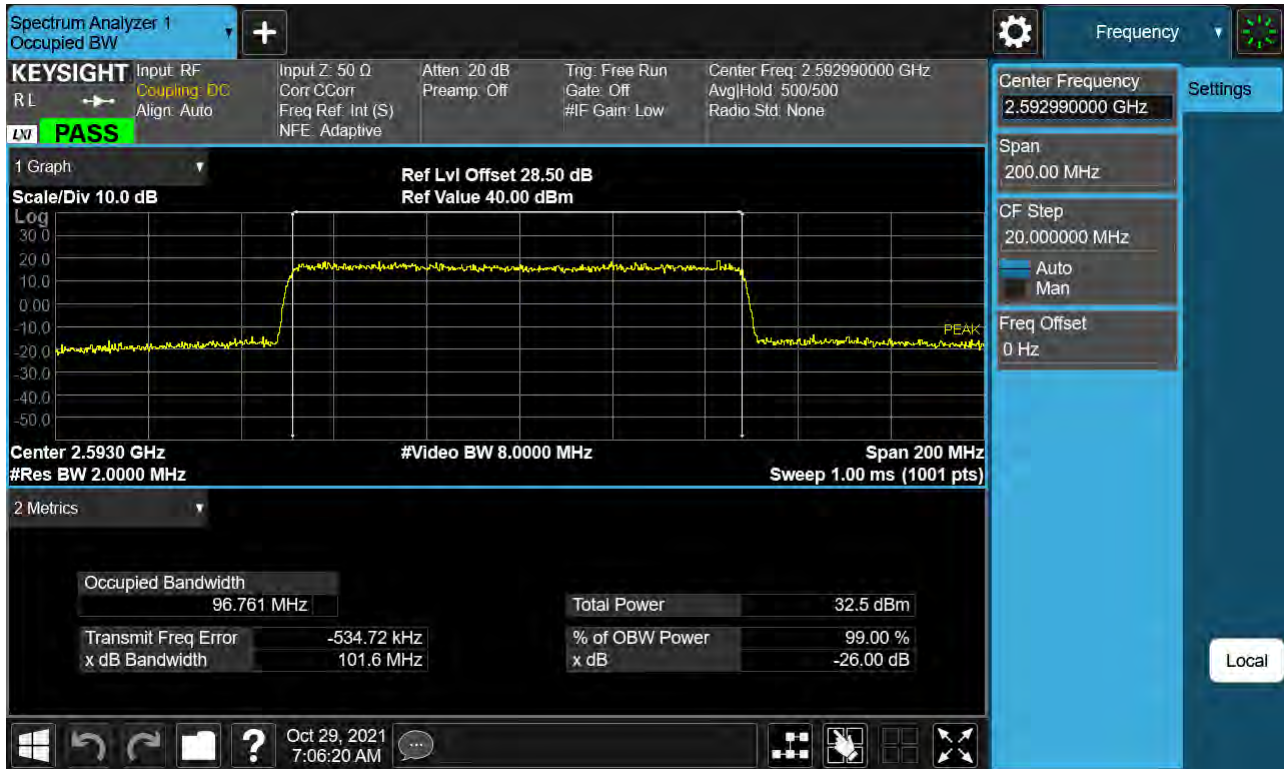
Sub6 n41. Occupied Bandwidth Plot (100 MHz Ch.518598 QPSK )



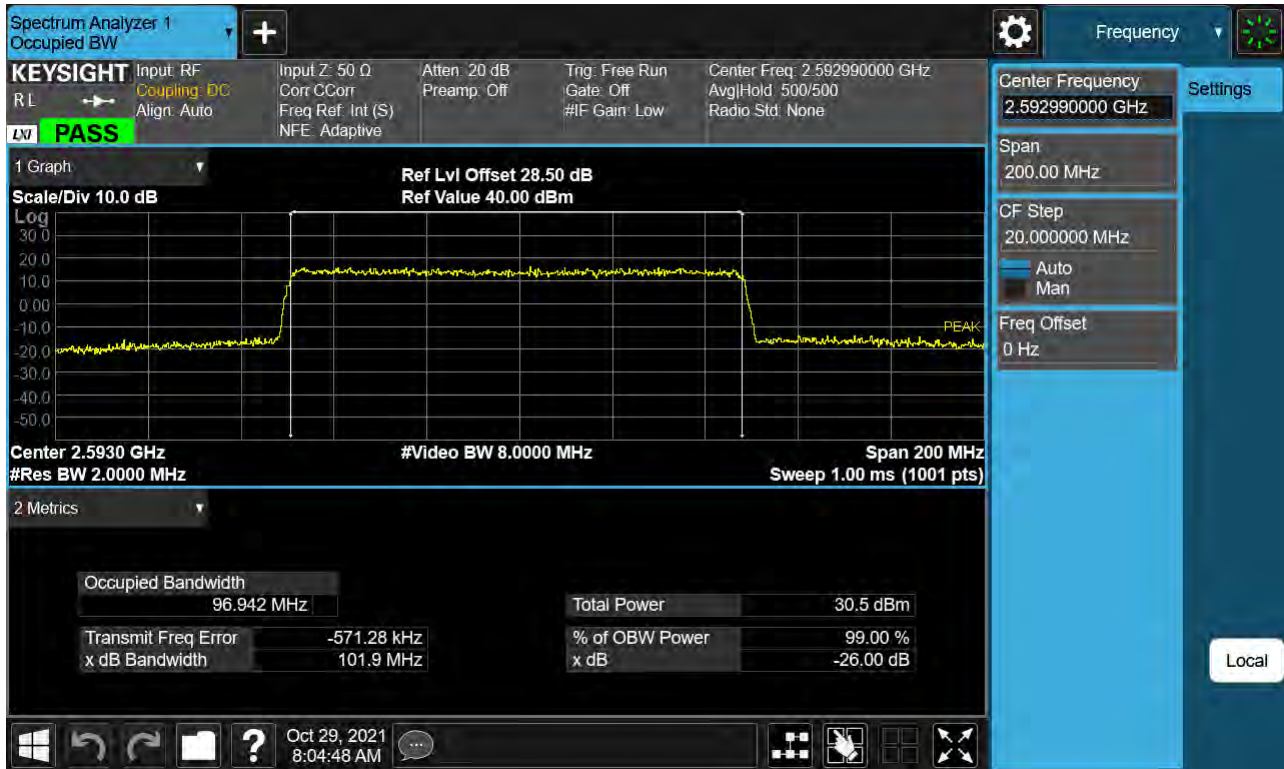
Sub6 n41. Occupied Bandwidth Plot (100 MHz Ch.518598 16-QAM )



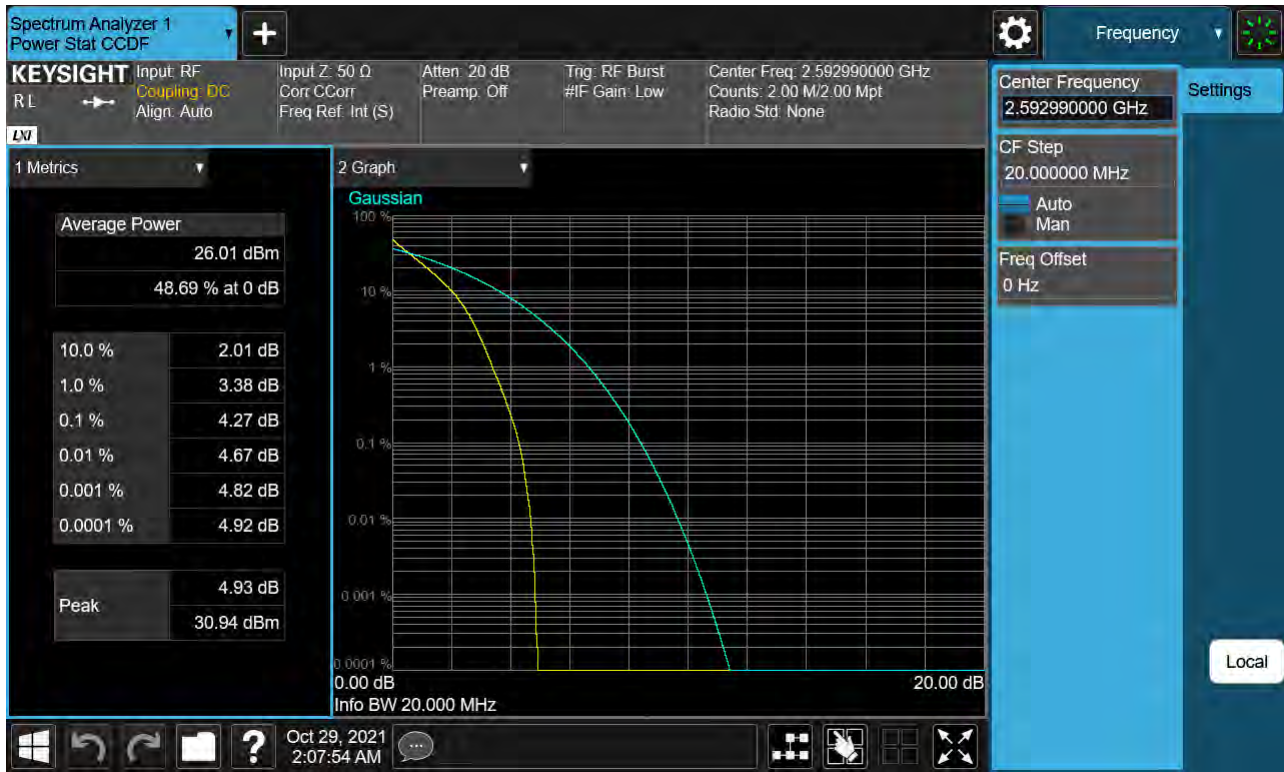
Sub6 n41. Occupied Bandwidth Plot (100 MHz Ch.518598 64-QAM )



Sub6 n41. Occupied Bandwidth Plot (100 MHz Ch.518598 256-QAM )



Sub6 n41. PAR Plot (20 M BW\_Ch.518598\_BPSK)



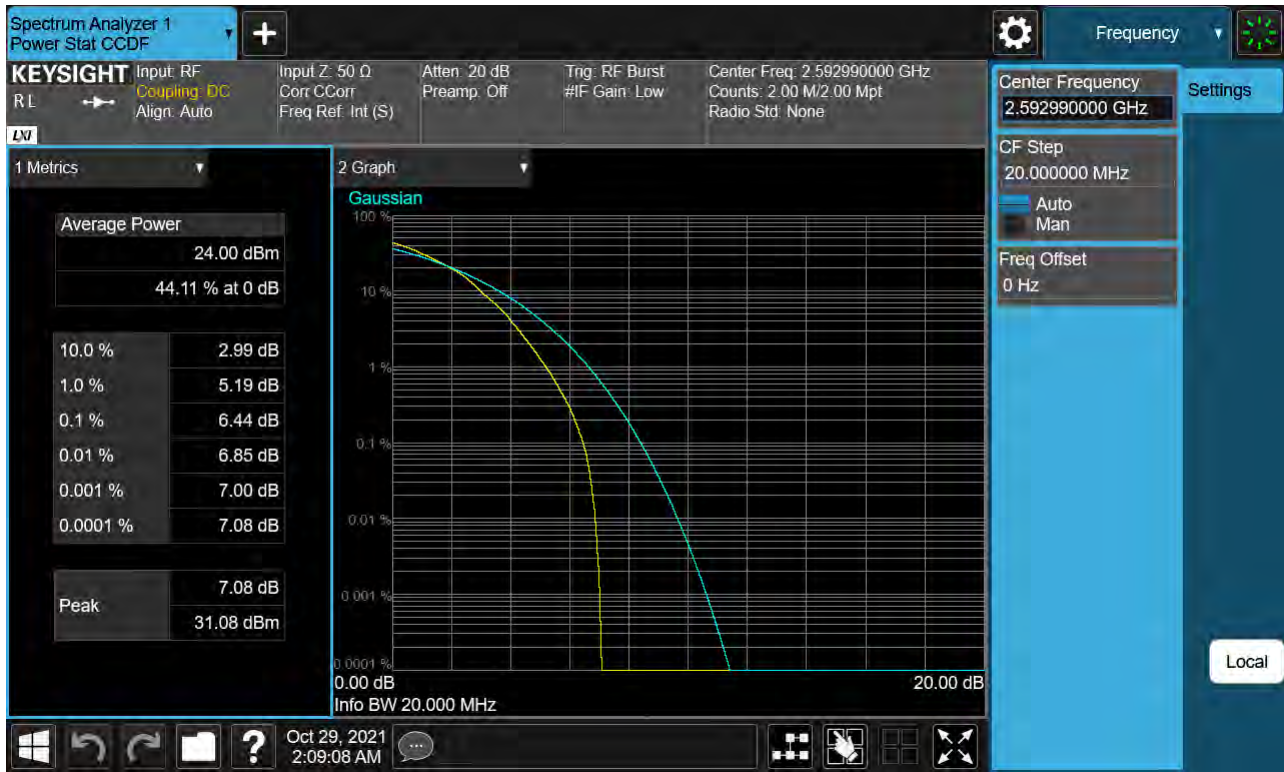
Sub6 n41. PAR Plot (20 M BW\_Ch.518598\_QPSK)



Sub6 n41. PAR Plot (20 M BW\_Ch.518598\_16QAM)



Sub6 n41. PAR Plot (20 M BW\_Ch.518598\_64QAM)



Sub6 n41. PAR Plot (20 M BW\_Ch.518598\_256QAM)



Sub6 n41. PAR Plot (30 M BW\_Ch.518598\_BPSK)



Sub6 n41. PAR Plot (30 M BW\_Ch.518598\_QPSK)



Sub6 n41. PAR Plot (30 M BW\_Ch.518598\_16QAM)



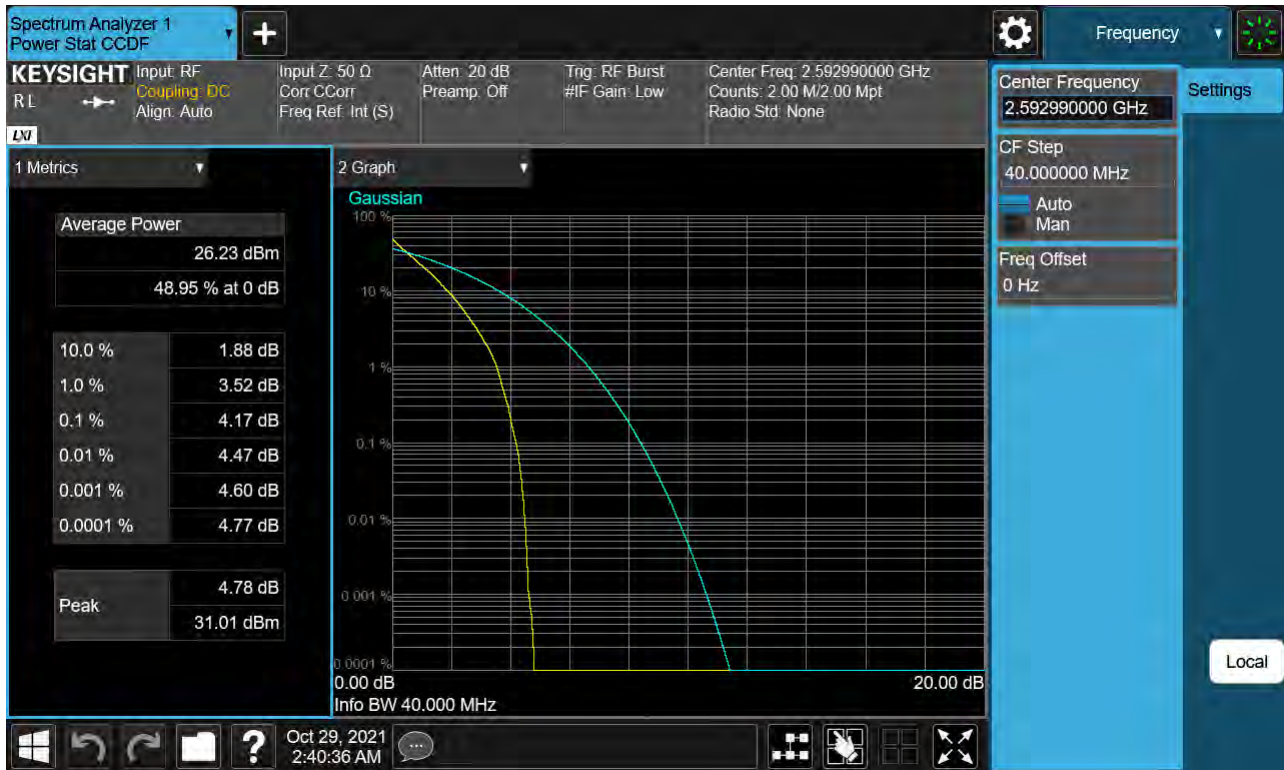
Sub6 n41. PAR Plot (30 M BW\_Ch.518598\_64QAM)



Sub6 n41. PAR Plot (30 M BW\_Ch.518598\_256QAM)



Sub6 n41. PAR Plot (40 M BW\_Ch.518598\_BPSK)



Sub6 n41. PAR Plot (40 M BW\_Ch.518598\_QPSK)



Sub6 n41. PAR Plot (40 M BW\_Ch.518598\_16QAM)



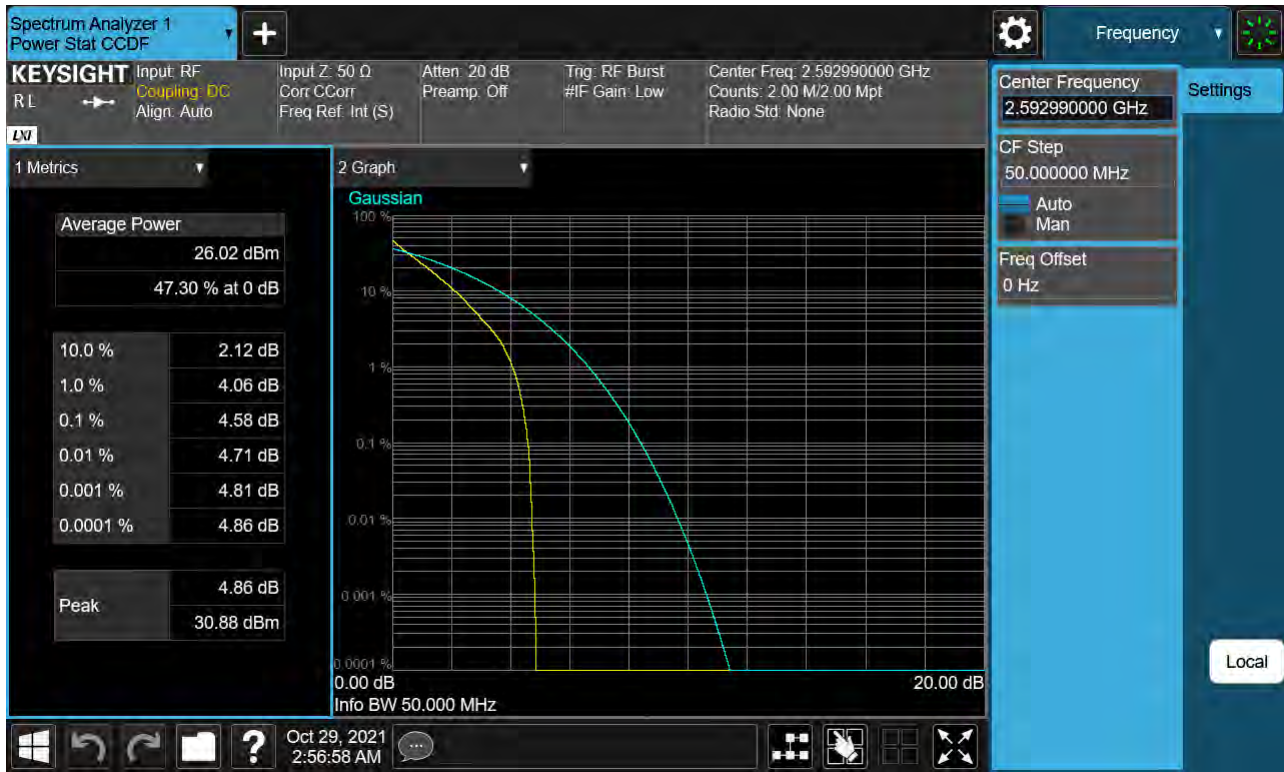
Sub6 n41. PAR Plot (40 M BW\_Ch.518598\_64QAM)



Sub6 n41. PAR Plot (40 M BW\_Ch.518598\_256QAM)



Sub6 n41. PAR Plot (50 M BW\_Ch.518598\_BPSK)



Sub6 n41. PAR Plot (50 M BW\_Ch.518598\_QPSK)



Sub6 n41. PAR Plot (50 M BW\_Ch.518598\_16QAM)



Sub6 n41. PAR Plot (50 M BW\_Ch.518598\_64QAM)



Sub6 n41. PAR Plot (50 M BW\_Ch.518598\_256QAM)



Sub6 n41. PAR Plot (60 M BW\_Ch.518598\_BPSK)

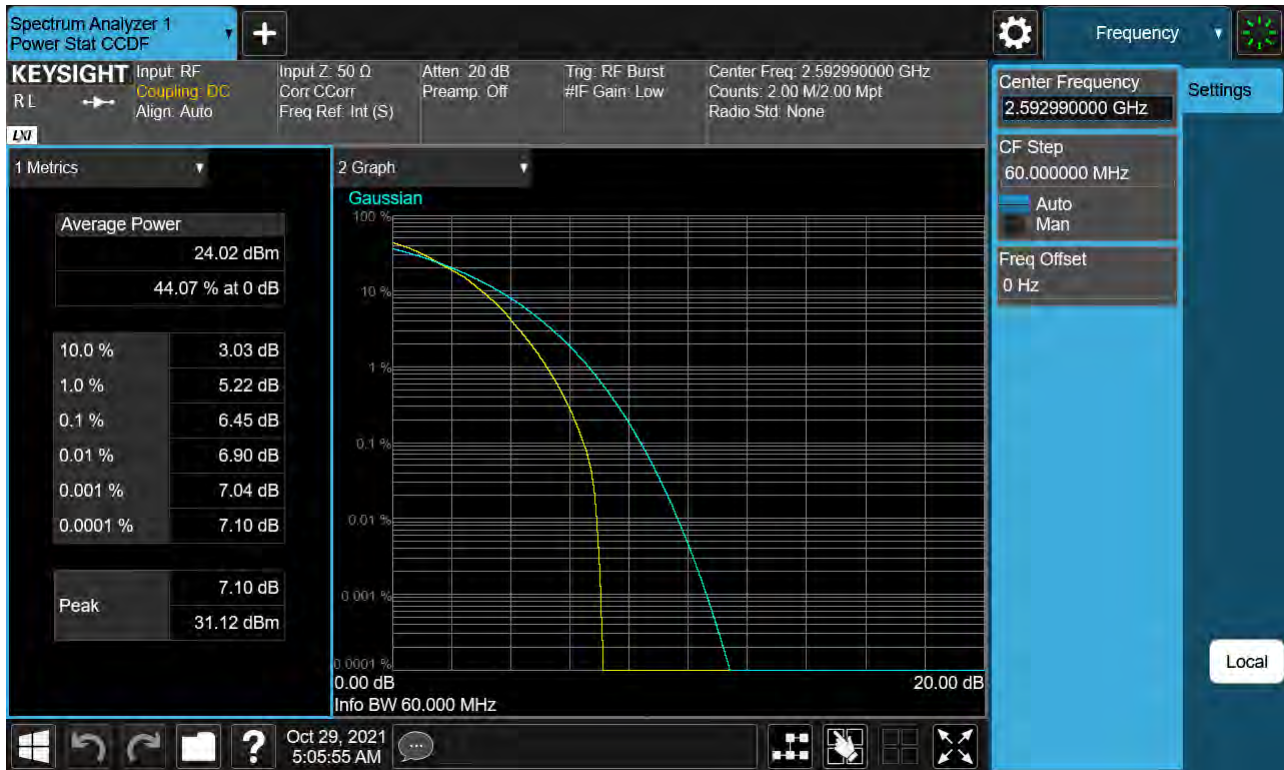




Sub6 n41. PAR Plot (60 M BW\_Ch.518598\_16QAM)



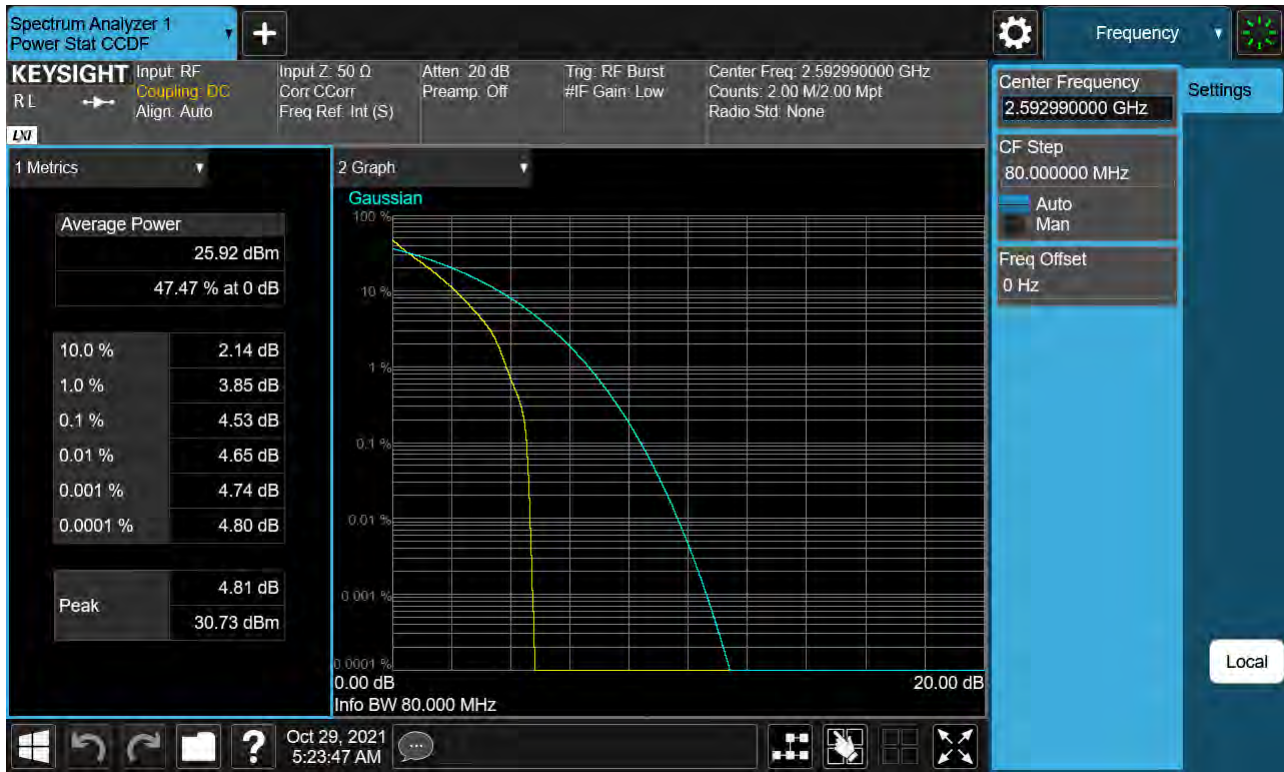
Sub6 n41. PAR Plot (60 M BW\_Ch.518598\_64QAM)



Sub6 n41. PAR Plot (60 M BW\_Ch.518598\_256QAM)



Sub6 n41. PAR Plot (80 M BW\_Ch.518598\_BPSK)



Sub6 n41. PAR Plot (80 M BW\_Ch.518598\_QPSK)





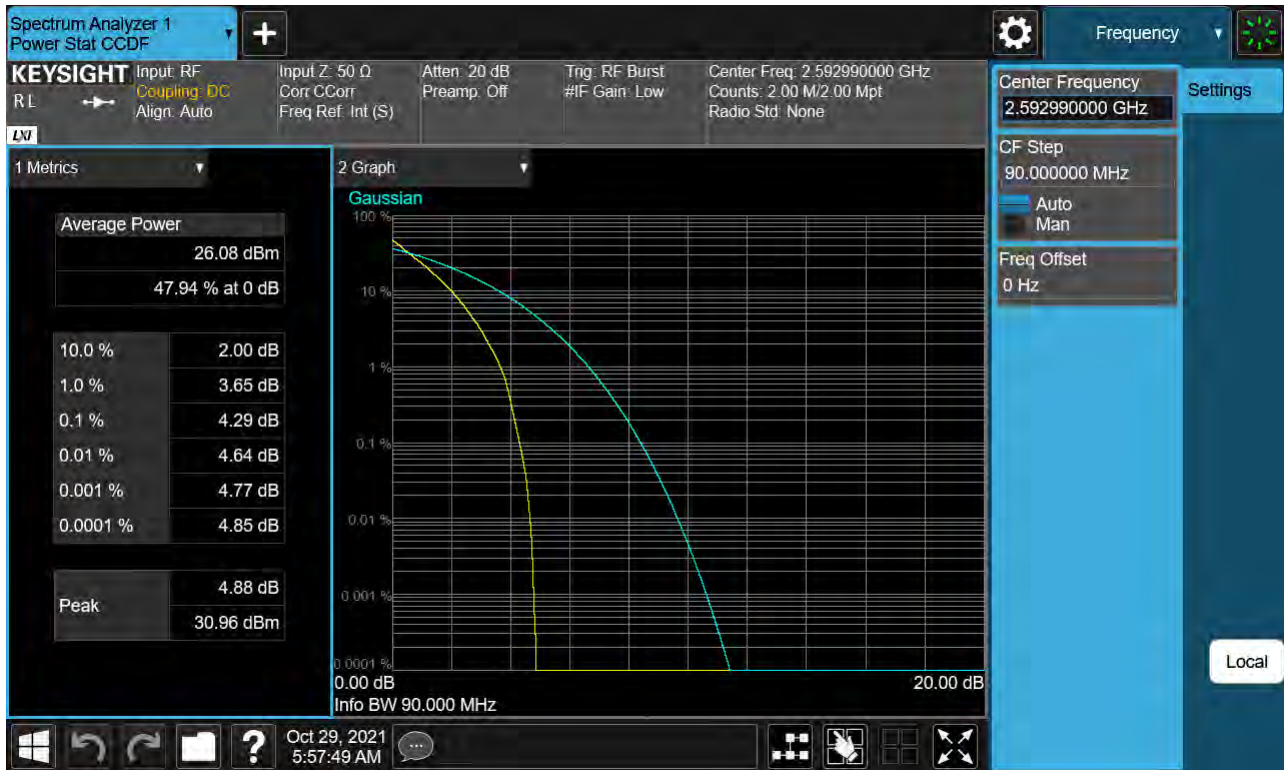
Sub6 n41. PAR Plot (80 M BW\_Ch.518598\_64QAM)



Sub6 n41. PAR Plot (80 M BW\_Ch.518598\_256QAM)



Sub6 n41. PAR Plot (90 M BW\_Ch.518598\_BPSK)



Sub6 n41. PAR Plot (90 M BW\_Ch.518598\_QPSK)



Sub6 n41. PAR Plot (90 M BW\_Ch.518598\_16QAM)



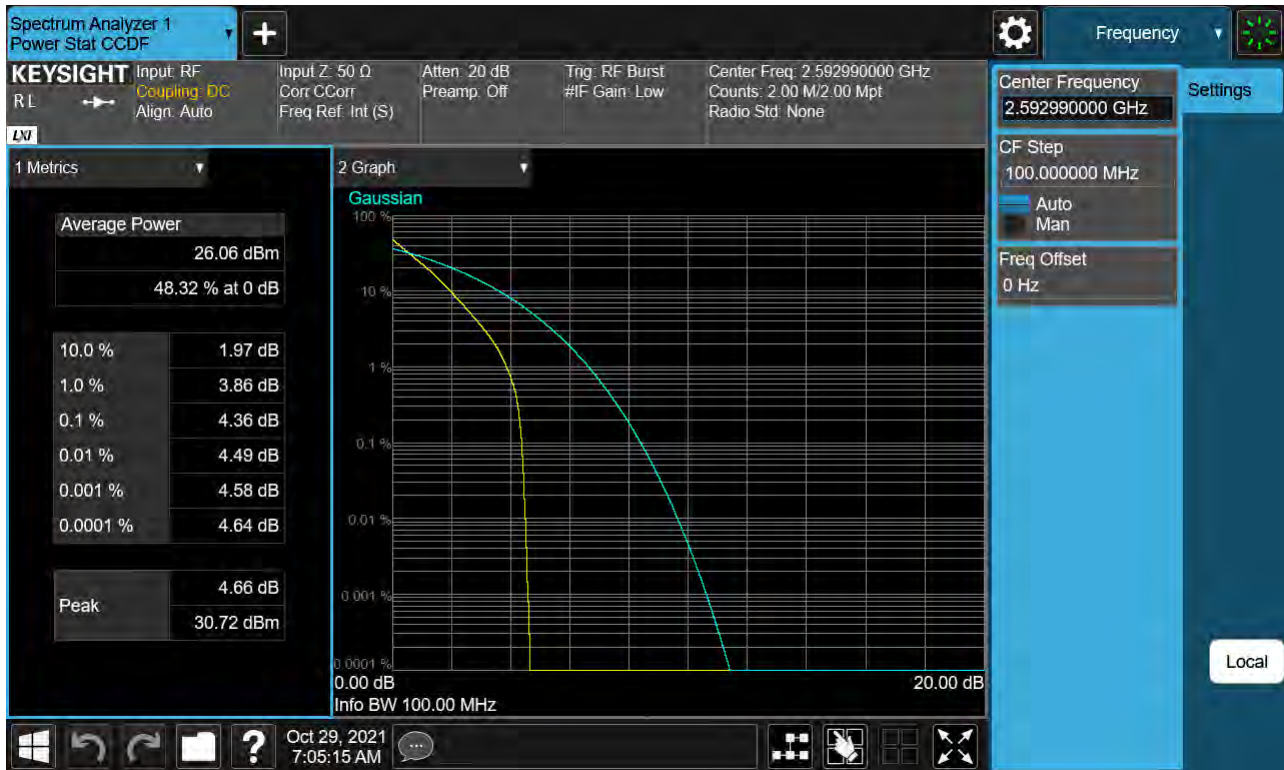
Sub6 n41. PAR Plot (90 M BW\_Ch.518598\_64QAM)



Sub6 n41. PAR Plot (90 M BW\_Ch.518598\_256QAM)



Sub6 n41. PAR Plot (100 M BW\_Ch.518598\_BPSK)



Sub6 n41. PAR Plot (100 M BW\_Ch.518598\_QPSK)



Sub6 n41. PAR Plot (100 M BW\_Ch.518598\_16QAM)



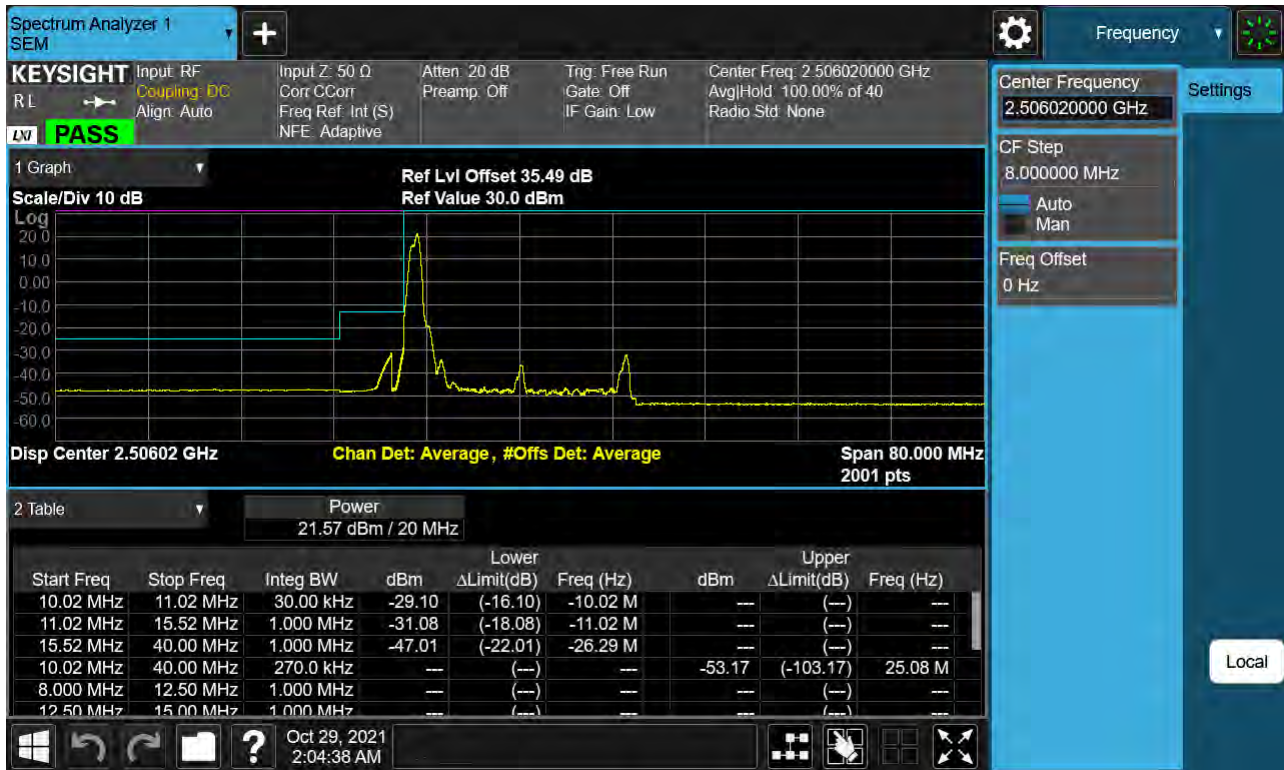
Sub6 n41. PAR Plot (100 M BW\_Ch.518598\_64QAM)



Sub6 n41. PAR Plot (100 M BW\_Ch.518598\_256QAM)



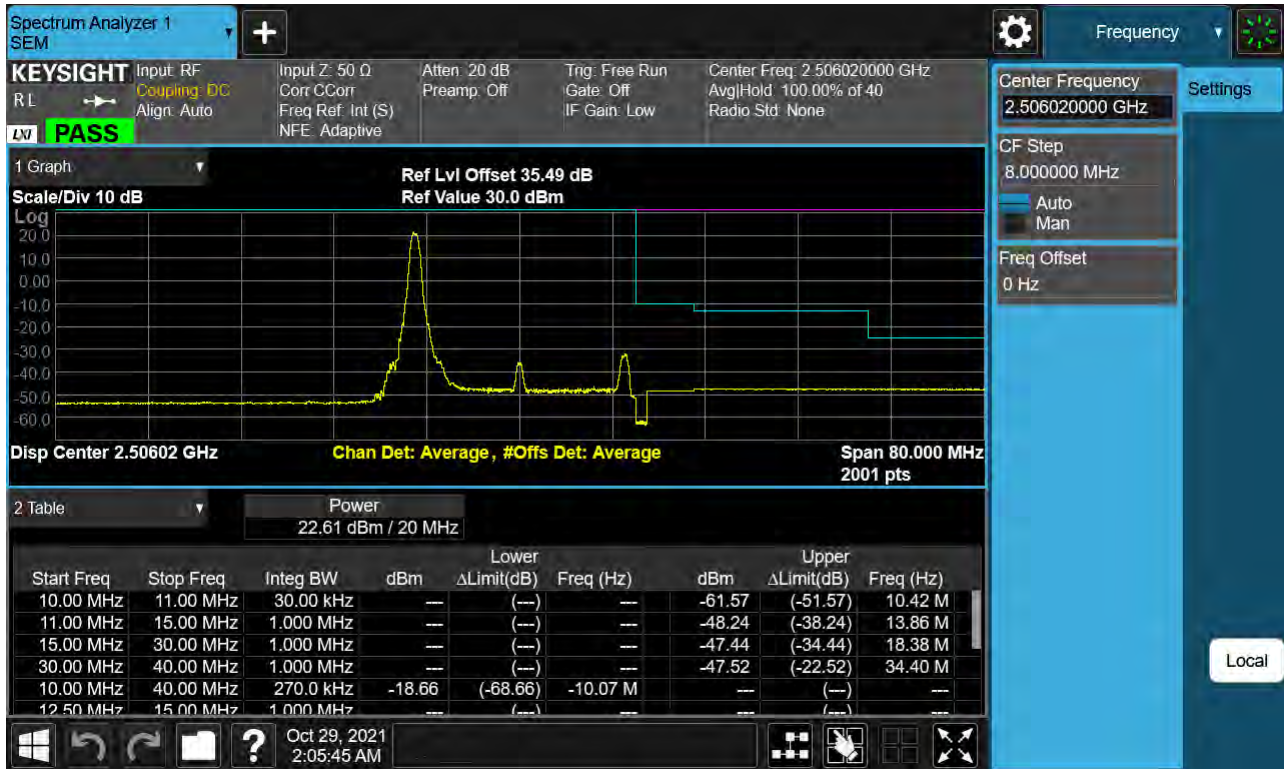
Sub6 n41. Low Channel Edge Plot (20 MHz Ch.501204 BPSK RB 1)-1



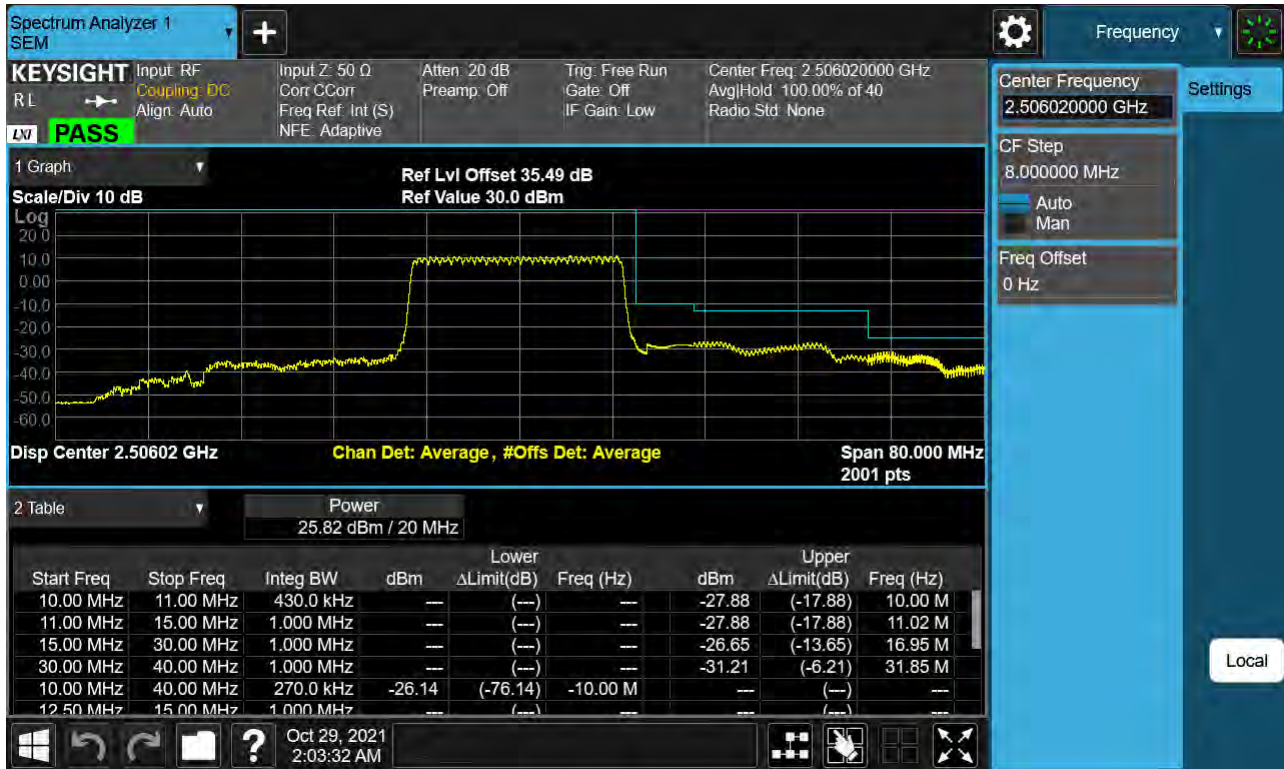
Sub6 n41. Low Channel Edge Plot (20 MHz Ch.501204 BPSK )-1



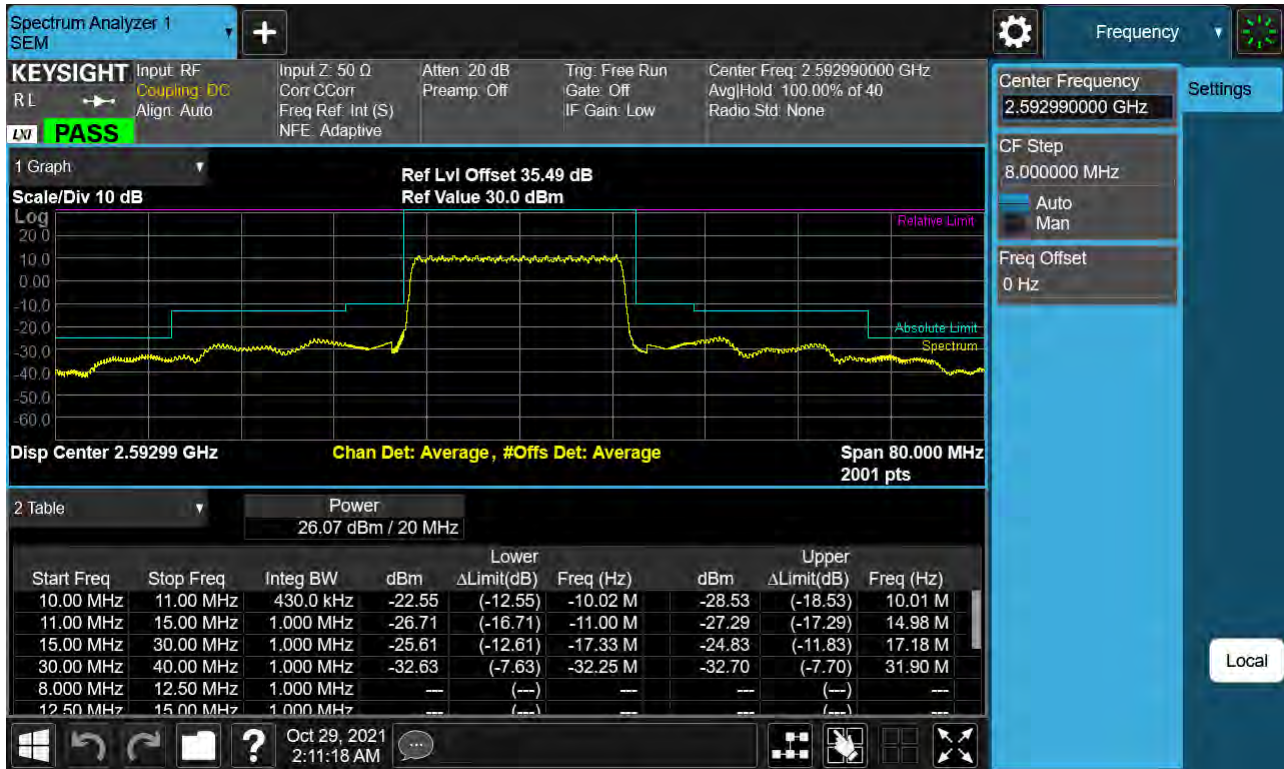
Sub6 n41. Low Channel Edge Plot (20 MHz Ch.501204 BPSK\_RB1)-2



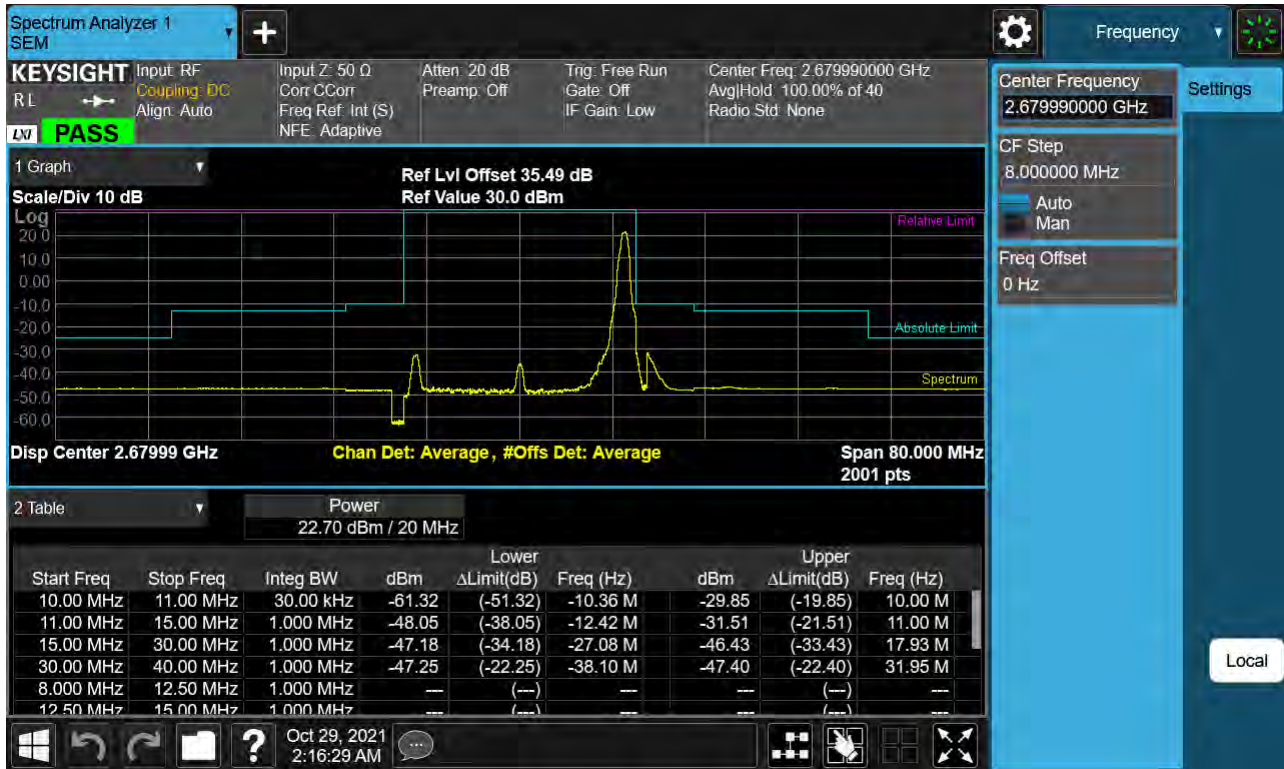
Sub6 n41. Low Channel Edge Plot (20 MHz Ch.501204 BPSK)-2



Sub6 n41. Mid Channel Edge Plot (20 MHz Ch.518598 BPSK )



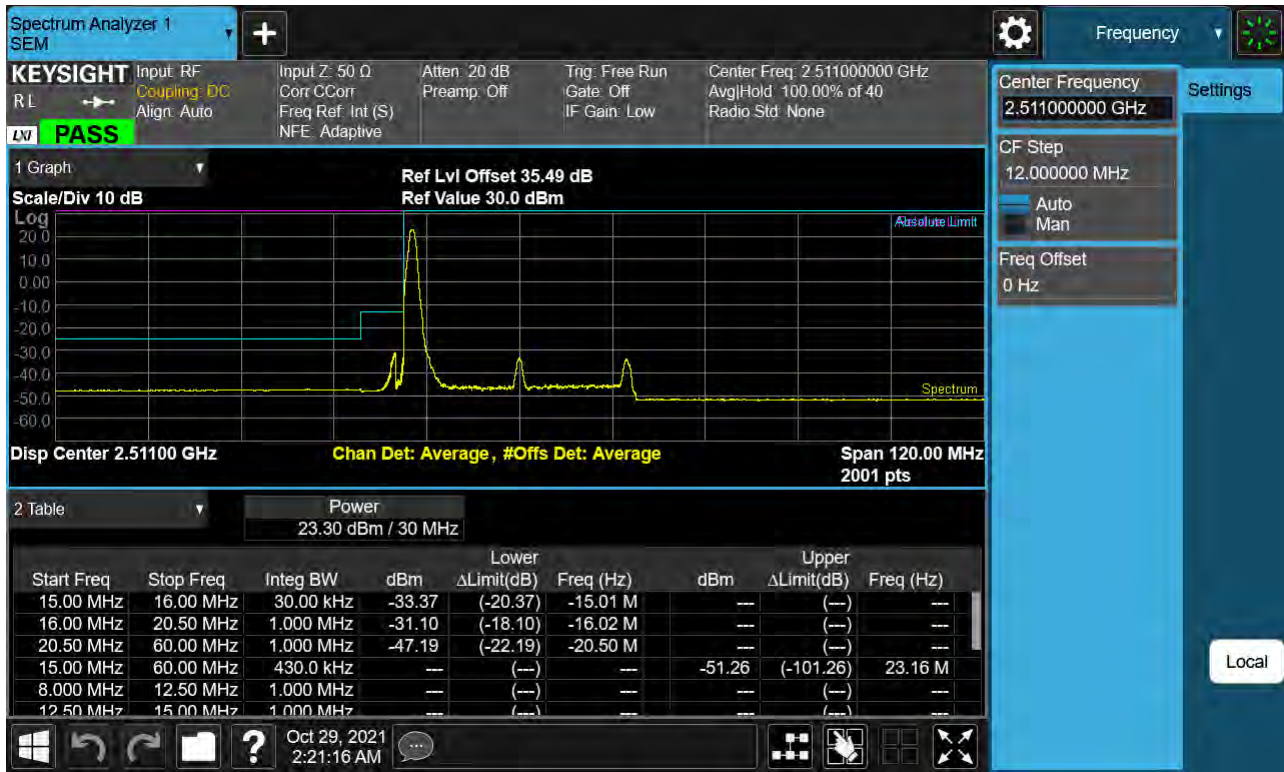
Sub6 n41. High Channel Edge Plot (20 MHz Ch.535998 BPSK RB 1)



Sub6 n41. High Channel Edge Plot (20 MHz Ch.535998 BPSK)



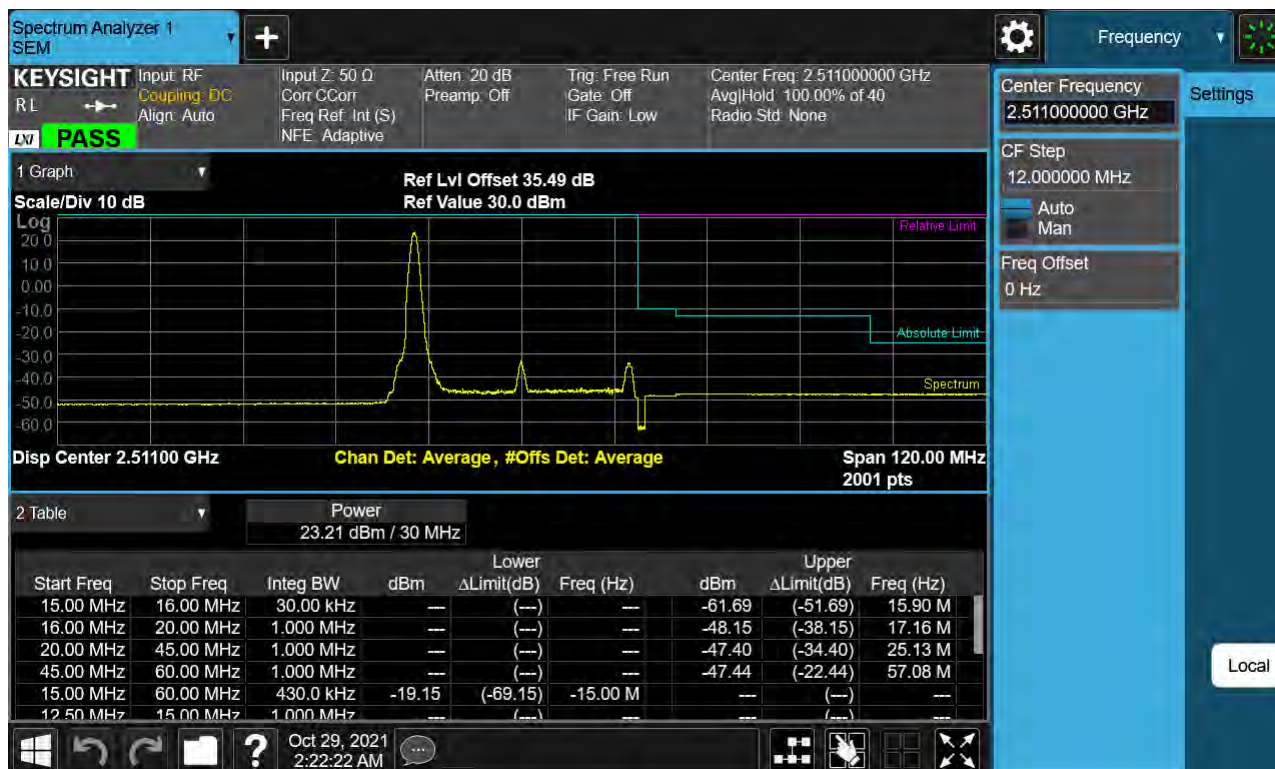
Sub6 n41. Low Channel Edge Plot (30 MHz Ch.502200 BPSK RB 1)-1



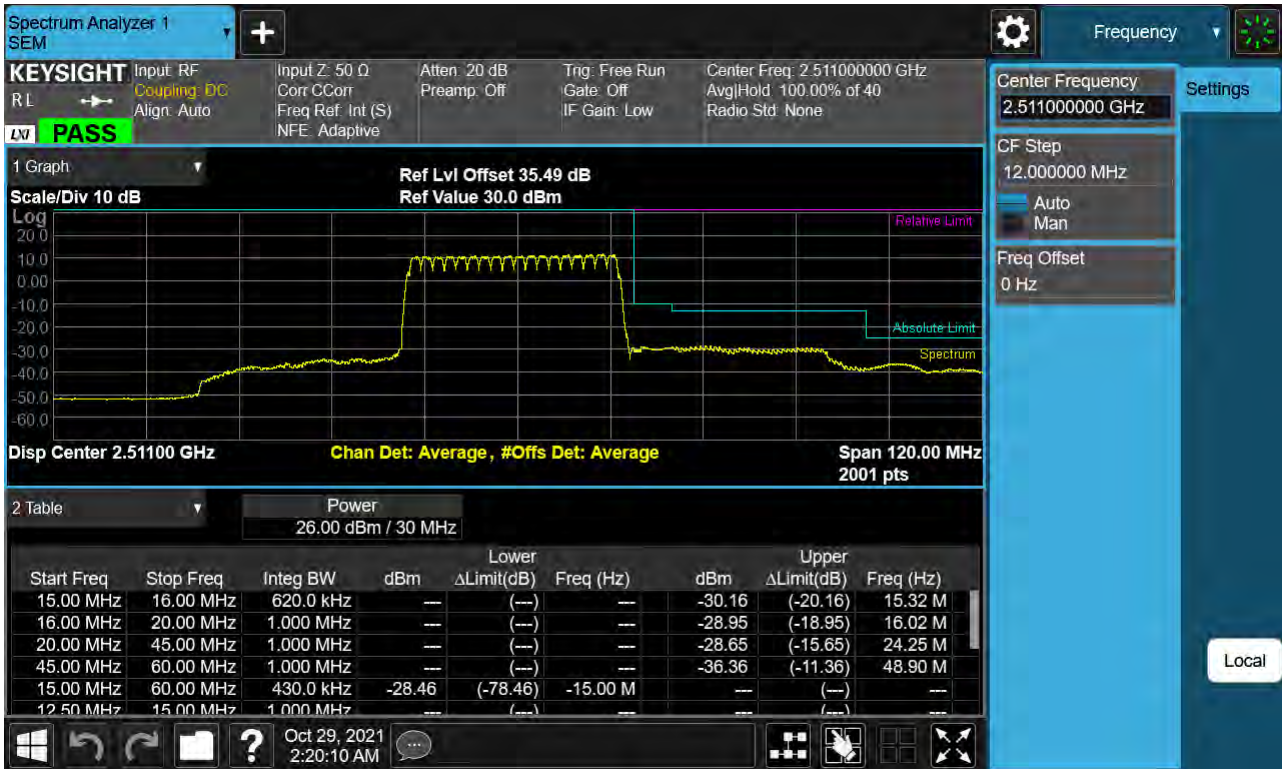
Sub6 n41. Low Channel Edge Plot (30 MHz Ch.502200 BPSK)-1



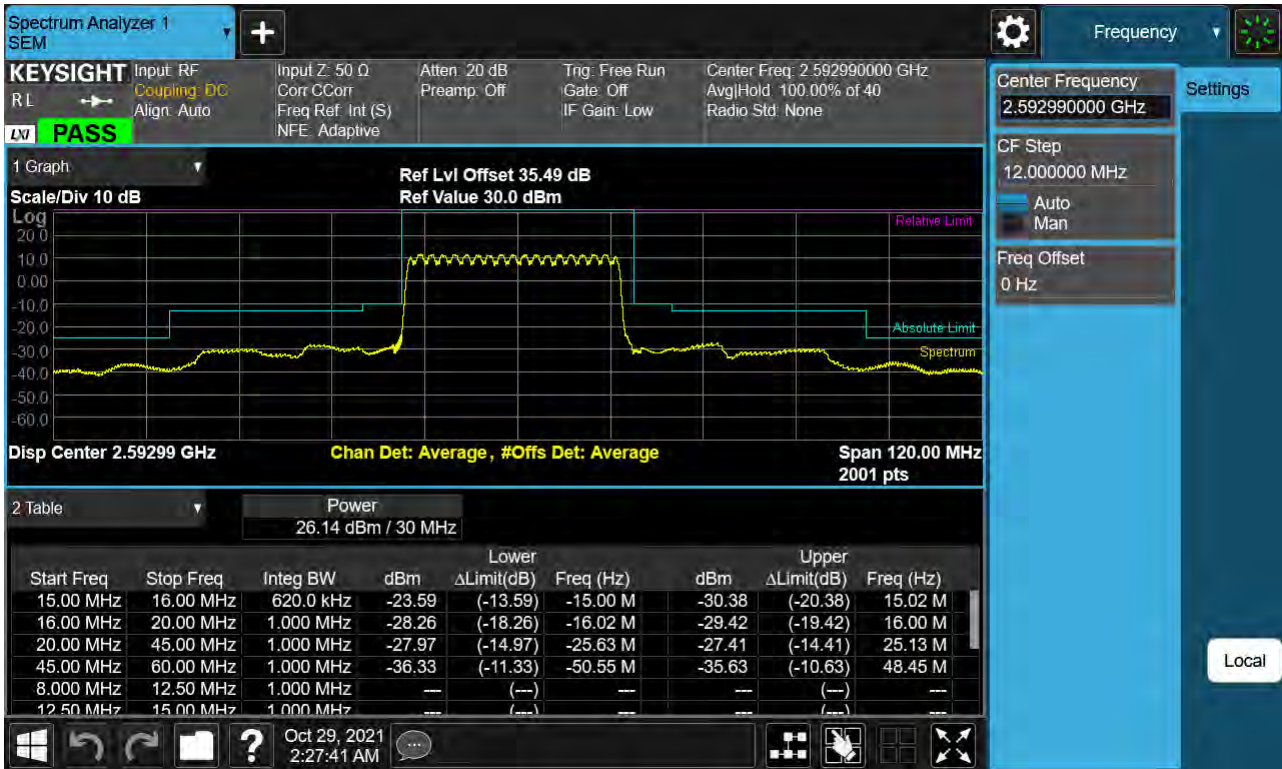
Sub6 n41. Low Channel Edge Plot (30 MHz Ch.502200 BPSK\_RB1)-2



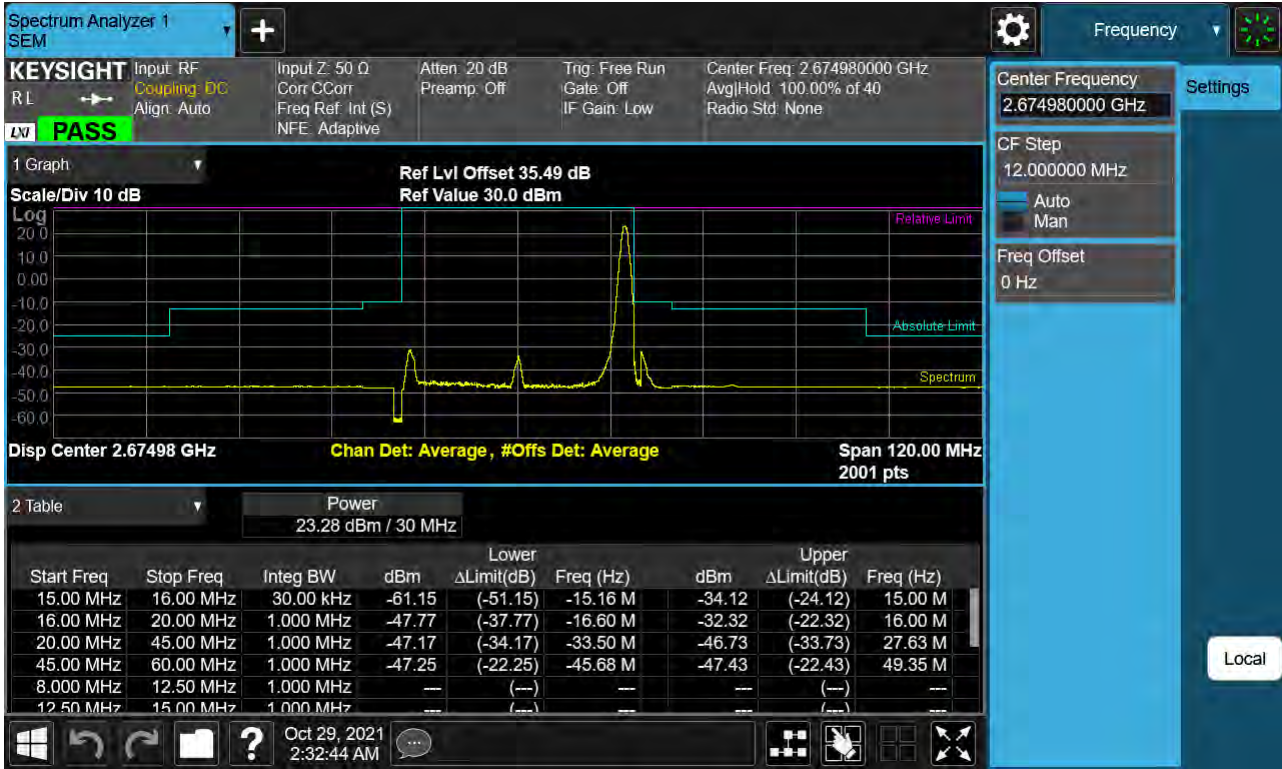
Sub6 n41. Low Channel Edge Plot (30 MHz Ch.502200 BPSK)-2



Sub6 n41. Mid Channel Edge Plot (30 MHz Ch.518598 BPSK )



Sub6 n41. High Channel Edge Plot (30 MHz Ch.534996 BPSK RB 1)



Sub6 n41. High Channel Edge Plot (30 MHz Ch.534996 BPSK)

